WOODSTOCK

SHOP FOX®

INTERNATIONAL

MODEL W1772/W1773
37" DRUM SANDER

OWNER'S MANUAL

Phone: (360) 734-3482 • Online Technical Support: tech-support@shopfox.biz

#9083BL **Printed in Taiwan**

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.

Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including amputation, electrocution or death.

The owner of this machine/equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Contents

USE THE QUICK GUIDE PAGE LABELS TO SEARCH OUT INFORMATION FAST!

INTRODUCTION

Woodstock Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

Woodstock International, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

We stand behind our machines! In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: **tech-support@shopfox.biz**. Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition of this manual, you can download it from **http://www.shopfox.biz**.
If you have comments about this manual, please contact us at:

Woodstock International, Inc.
Attn: Technical Documentation Manager
P.O. Box 2309
Bellingham, WA 98227
Email: manuals@woodstockint.com

MACHINE SPECIFICATIONS

Phone #: (360) 734-3482 • Online Tech Support: tech-support@shopfox.biz • Web: www.shopfox.biz

MODEL W1772
37" DRUM SANDER

Motors

Sanding Drum

Type	TEFC Capacitor Start Induction
Horsepower	10 HP
Voltage	220V
Phase	Single
Amps	43A
Speed	1725 RPM
Cycle	60 Hz
Number of Speeds	1
Power Transfer	Twin V-Belt Drive
Bearings	Sealed and Lubricated

Conveyor Feed

Type	TEFC Induction
Horsepower	1/3 HP
Voltage	220V
Phase	Single
Amps	2.7A
Speed	1125 RPM
Cycle	60 Hz
Number of Speeds	Variable
Power Transfer	Chain Drive and Belt
Bearings	Sealed and Lubricated

Overall Dimensions

Weight (Shipping)	1423 lbs.
Weight (In Place)	1281 lbs.
Length/Width/Height	62" x 53" x 49"
Foot Print (Length/Width)	45" x 32"
Type	Wood Crate
Content	Machine
Width With Handle	68"
Table Height	29"-33"

Electrical Dimensions

Switch	On/Off Emergency Stop
Switch Voltage	220V
Recommended Circuit Size	60 Amp

Main Specifications

Operation Information

No. of Sanding Drums	2
Maximum Board Width	36 1/2"
Minimum Board Width	2"
Maximum Board Thickness	4"
Minimum Board Thickness	1/16"
Minimum Board Length	9"
Sanding Belt Speed	2800 FPM
Surface Speed of Drums	2800 FPM
Conveyor Speed	Variable, 6-18 FPM
Sanding Belt Length	138"
Sanding Belt Width	6"

Drum Specifications

Infeed Sanding Drum Type	Steel/Rubber
Infeed Sanding Drum Size	6"
Outfeed Sanding Drum Type	Rubber
Outfeed Sanding Drum Size	6"

Construction

Conveyor Belt Construction	Rubber
Body Construction	Steel
Base Construction	Steel
Paint	Powder Coated

Other Related Information

Floor to Belt Height	29-33"
No Of Pressure Rollers	5
Pressure Roller Type	Rubber
Pressure Roller Size	1 17/32"
Conveyor Belt Length	90 1/2"
Conveyor Belt Width	36 1/2"
Belt Roller Size	2.67"
Number Of Dust Ports	4
Dust Port Size	4"
360° Handwheel Turn	0.020" Table Lift

Other

Country Of Origin	Taiwan
Warranty	2 Years
Serial Number Location	ID Label on the Control Box
Assembly Time	25 minutes

Features

Easy Access Control Panel w/Load Meter
Variable Speed Conveyor
State of the Art Computer Balanced Drums
Advanced Dust Collection
Hinged Hood with Gas Struts for Easy Drum Access
Industrial Rubber Conveyor Belt

MACHINE SPECIFICATIONS

Phone #: (360) 734-3482 • Online Tech Support: tech-support@shopfox.biz • Web: www.shopfox.biz

MODEL W1773
37" DRUM SANDER

Motors

Sanding Drum

Type	TEFC Induction
Horsepower	15 HP
Voltage	220V/440V
Prewired	220V
Phase	Three
Amps	43/21.5A
Speed	1725 RPM
Cycle	60 Hz
Number of Speeds	1
Power Transfer	Twin V-Belt Drive
Bearings	Sealed and Lubricated

Conveyor Feed

Type	TEFC Induction
Horsepower	1/3 HP
Voltage	220V/440V
Prewired	220V
Phase	Three
Amps	1.3/0.65A
Speed	1125 RPM
Cycle	60 Hz
Number of Speeds	Variable
Power Transfer	Chain Drive and Belt
Bearings	Sealed and Lubricated

Overall Dimensions

Weight (Shipping)	1423 lbs.
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Type	Wood Crate
Content	Machine
Width With Handle	68"
Table Height	29"-33"

Electrical Dimensions

Switch	On/Off Emergency Stop
Switch Voltage	220V
Recommended Circuit Size	60 amps at 220V, 30 amps at 440V

Main Specifications

Operation Information

No. of Sanding Drums	2
Maximum Board Width	36 1/2"
Minimum Board Width	2"
Maximum Board Thickness	4"
Minimum Board Thickness	1/16"
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Hinged Hood with Gas Struts for Easy Drum Access
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Controls and Features

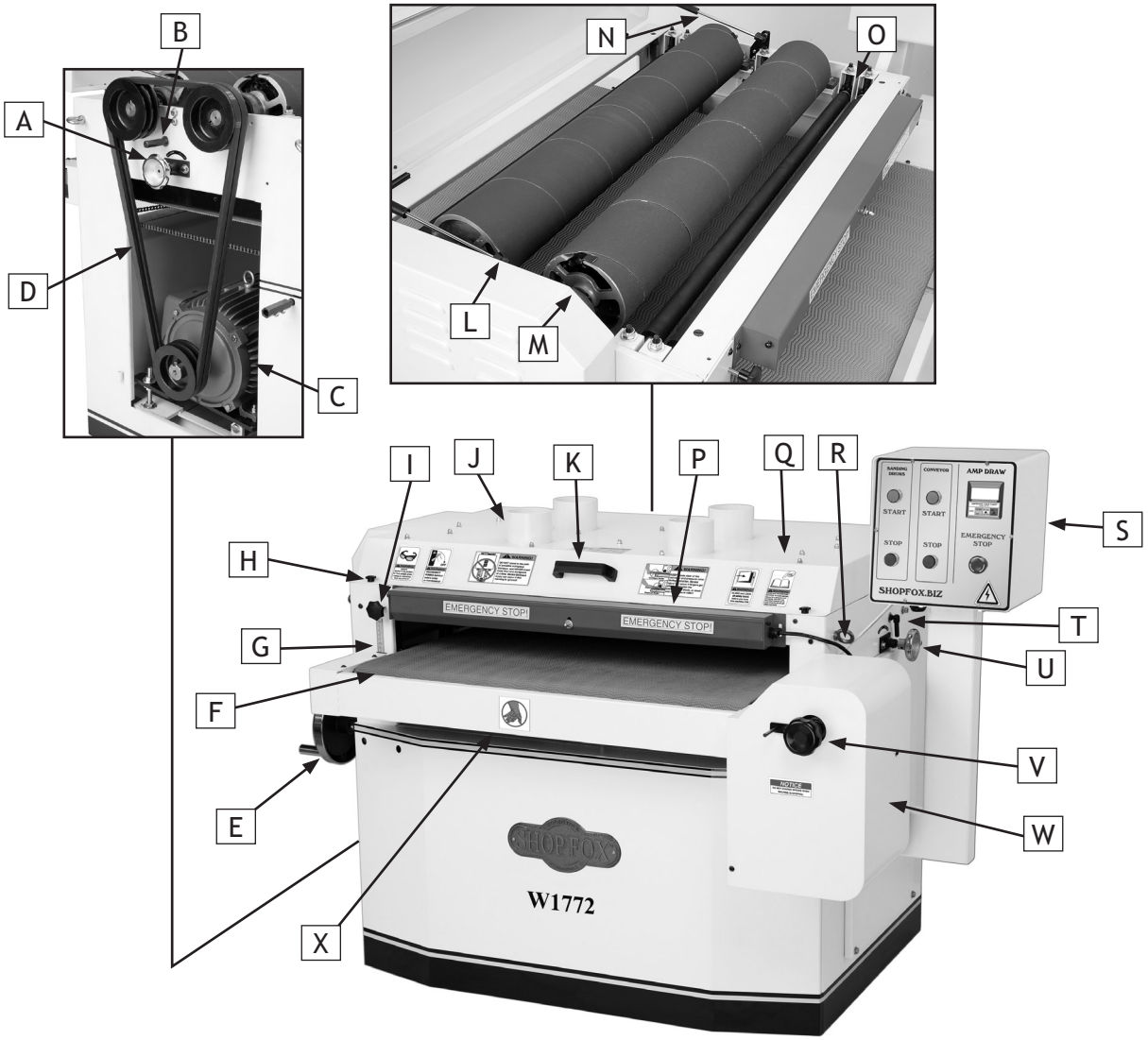


Figure 1. W1772/W1773 controls and features.

A. Micro-Adjust Knob (Left Side)
B. Micro-Adjust Lock (Left Side)
C. Sanding Drum Motor
D. V-Belts
E. Table Height Handwheel
F. Conveyor Belt
G. Depth Scale
H. Top Cover Lock Knob
I. Table Height Lock Knob
J. Dust Port
K. Top Cover Handle
L. Rear Drum
M. Front Drum
N. Gas Strut
O. Pressure Roller
P. Emergency Stop Bar
Q. Top Cover
R. Lifting Hook
S. Control Panel (See **Page 23**)
T. Micro-Adjust Lock Lever (Right Side)
U. Micro-Adjust Knob (Right Side)
V. Conveyor Speed Control Knob
W. Feed Motor Cover
X. Infeed Guard

SAFETY

READ MANUAL BEFORE OPERATING MACHINE. FAILURE TO FOLLOW INSTRUCTIONS BELOW WILL RESULT IN PERSONAL INJURY.

⚠DANGER Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

NOTICE This symbol is used to alert the user to useful information about proper operation of the equipment, and/or a situation that may cause damage to the machinery.

Standard Safety Instructions

1. **READ THROUGH THE ENTIRE MANUAL BEFORE STARTING MACHINERY.** Machinery presents serious injury hazards to untrained users.

2. **ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses—they are NOT safety glasses.

3. **ALWAYS WEAR AN NIOSH APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.

4. **ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing damage.

5. **WEAR PROPER APPAREL.** DO NOT wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.

6. **NEVER OPERATE MACHINERY WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.

8. **KEEP CHILDREN AND VISITORS AWAY.** Keep all children and visitors a safe distance from the work area.

9. **MAKE WORKSHOP CHILD PROOF.** Use padlocks, master switches, and remove start switch keys.

10. **NEVER LEAVE WHEN MACHINE IS RUNNING.** Turn power off and allow all moving parts to come to a complete stop before leaving machine unattended.

11. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.

12. **KEEP WORK AREA CLEAN AND WELL LIT**. Clutter and dark shadows may cause accidents.

13. **USE A GROUNDED EXTENSION CORD RATED FOR THE MACHINE AMPERAGE.** Undersized cords overheat and lose power. Replace extension cords if they become damaged. DO NOT use extension cords for 220V machinery.

14. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY**. Make sure switch is in OFF position before reconnecting.

15. **MAINTAIN MACHINERY WITH CARE**. Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**

17. **REMOVE ADJUSTING KEYS AND WRENCHES**. Make a habit of checking for keys and adjusting wrenches before turning machinery ***ON***.

18. **CHECK FOR DAMAGED PARTS BEFORE USING MACHINERY.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect machine operation. Repair or replace damaged parts.

19. **USE RECOMMENDED ACCESSORIES**. Refer to the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.

20. **DO NOT FORCE MACHINERY**. Work at the speed for which the machine or accessory was designed.

21. **SECURE WORKPIECE**. Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.

22. **DO NOT OVERREACH**. Keep proper footing and balance at all times.

23. **MANY MACHINES WILL EJECT THE WORKPIECE TOWARD THE OPERATOR**. Know and avoid conditions that cause the workpiece to "kickback."

24. **ALWAYS LOCK MOBILE BASES (IF USED) BEFORE OPERATING MACHINERY.**

25. **BE AWARE THAT CERTAIN DUST MAY BE HAZARDOUS** to the respiratory systems of people and animals, especially fine dust. Make sure you know the hazards associated with the type of dust you will be exposed to and always wear a respirator approved for that type of dust.

Additional Safety for Drum Sanders

⚠WARNING

READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!

⚠CAUTION

USE this and other machinery with caution and respect. Always consider safety first, as it applies to your individual working conditions. No list of safety guidelines can be complete—every shop environment is different. Failure to follow guidelines could result in serious personal injury, damage to equipment or poor work results.

1. **FEEDING STOCK.** Do not stand in the direct path of a workpiece at the infeed end when feeding your stock. Never sand more than one piece of stock at a time. DO NOT jam the workpiece into the machine during operation. Firmly grasp the workpiece in both hands and ease it into the machine using light pressure.

2. **MINIMUM STOCK DIMENSIONS**. Do not sand any stock thinner than $^{1}/_{16}$", narrower than 2", or shorter than 9". Do not sand thin stock by using a "dummy" board under your workpiece.

3. **SAFETY COVERS**. All covers must be closd and in place before starting machine.

4. **CLOTHING.** Do not wear loose clothing while operating this machine. Roll up or button long sleeves at the cuff.

5. **HAND PROTECTION**. Do not place hands near, or in contact with, sanding drums during operation. DO NOT allow fingers to get pinched between board and conveyor belt during operation. This may pull the operator's hand into the machine and cause serious injury or death!

6. **INSPECTING WORKPIECES**. Always inspect one workpiece at a time for nails, staples, knots, and other imperfections that could be dislodged and thrown from the machine during sanding operations. Do not use workpieces with these defects.

7. **DUST COLLECTION SYSTEM**. Never operate the sander without an adequate dust collection system in place and running.

8. **BE ATTENTIVE**. Never leave the machine running unattended.

9. **REPLACING SANDING PAPER**. Replace sanding paper when it becomes worn or damaged.

10. **EXPERIENCING DIFFICULTIES**. Any problem, with the exception of conveyor belt tracking, that is concerned with any moving parts or accessories, must be investigated and corrected with the power disconnected, and after all moving parts have come to a complete stop.

11. **MAINTENANCE AND ADJUSTMENTS**. Never attempt to adjust conveyor belt tracking when the sanding drums are running. Perform machine inspections and maintenance service promptly when called for. Disconnect power before performing maintenance or adjustments to the sander.

12. **RESPIRATOR AND SAFETY GLASSES**. Always wear a respirator and safety glasses while operating the machine. Dust and chips are created when sanding. Some debris will be ejected, becoming hazards to the eyes and lungs.

ELECTRICAL

WARNING

The machine must be properly set up before it is safe to operate. DO NOT connect this machine to the power source until instructed to do so in the "Power Connection" portion of this manual.

W1772 Single-Phase 220V Operation

The Model W1772 is wired for 220V single-phase operation.

This machine must be hardwired to a locking shutoff switch (**Figure 2**) by a qualified electrician. Since hardwiring involves a permanent installation with conduit runs, this task can only be safely accomplished by a qualified electrician. As always, observe all applicable electrical codes when connecting this machine to power.

This machine must be grounded! Verify the ground before connecting this machine to the power source.

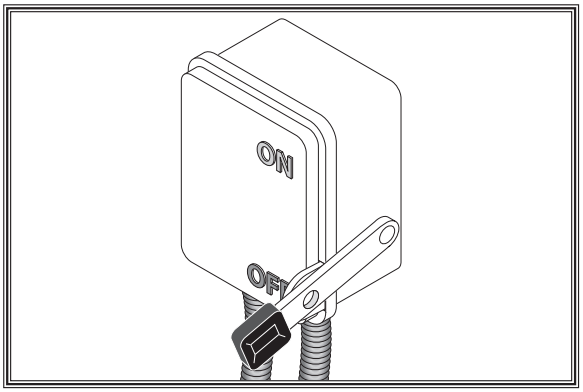


Figure 2. Locking shutoff switch.

WARNING

DO NOT work on your electrical system if you are unsure about electrical codes and wiring! Seek assistance from a qualified electrician. Ignoring this warning can cause electrocution, fire, or machine damage.

W1772 Electrical Specifications

Voltage	Amp Draw	Min. Circuit Size	Connection	Cord	Extension Cord
220V	45.7A	60	Hardwire	Conduit Setup	N/A (Hardwire Only)

WARNING

The machine must be properly set up before it is safe to operate. DO NOT connect this machine to the power source until instructed to do so in the "Power Connection" portion of this manual.

W1773 220V/440V 3-Phase Operation

The Model W1773 is prewired for 220V 3-phase operation, but may be rewired for 440V 3-phase operation (see **Page 13**).

This machine must be hardwired to a locking shutoff switch by a qualified electrician. Hardwiring involves a permanent installation with conduit runs that can only be accomplished safely by a qualified electrician. As always, observe all applicable electrical codes when connecting this machine to power.

This machine must be grounded! Verify the ground before connecting this machine to the power source.

Phase Converter

The power from the manufactured power leg (wild wire) of a phase converter fluctuates, which may damage electrical components if connected to the wrong incoming power terminal. If you must use a phase converter for 3-phase power, only connect the "wild wire" to the L1 terminal. The wire from the L1 terminal can handle some fluctuation because it goes directly to the motor. The power going to the L2 and L3 terminals connects to the controls and must be consistent to prevent damage.

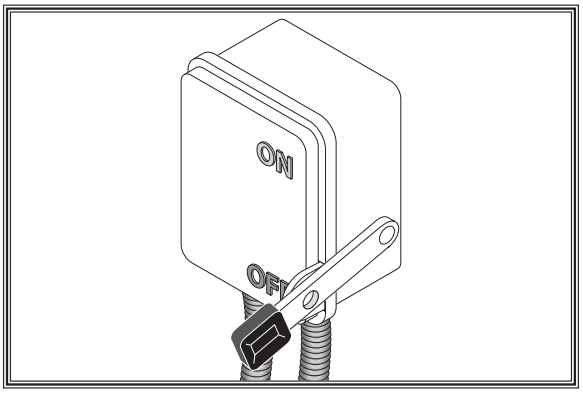


Figure 3. Locking shutoff switch.

WARNING

Attempting to connect this machine to the power source without a qualified electrician greatly increases the risk of electrocution, fire, or machine damage.

W1773 Electrical Specifications

Voltage	Amp Draw	Min. Circuit Size	Connection	Cord	Extension Cord
220V	44.3	60A	Hardwire	Conduit Setup	N/A (Hardwire Only)
440V	22.15	30A	Hardwire	Conduit Setup	N/A (Hardwire Only)

Rewiring W1773 to 440V

Rewiring your Model W1773 to 440V requires you to replace the existing control box 220V main panel with a 440V main panel and rewire the sanding motor and feed motor.

The 440V conversion kit can be purchased as #X1773553 by calling (360) 734-3482.

The rewiring job must be inspected by a qualified electrician before connecting to power.

To rewire the Model W1773 for 440V operation, do these steps:

1. DISCONNECT THE SANDER FROM THE POWER SOURCE!

2. Rewire both the sanding drum and feed motors according to the diagrams on the inside of the junction box cover.

   Note: *These drawings are also shown on **Page 54** & **55** for your reference, but always use the drawings in the junction box cover, as they will reflect any changes to the machine since the time of writing.*

3. Open the control panel and familiarize yourself with **Figure 75** on **Page 50** for component locations.

4. Keeping track of the wire locations, disconnect all power and motor wires, so the main panel can be completely removed.

5. Remove and replace the existing control box 220V main panel with the 440V main panel from the 440V conversion kit (**Figure 4**).

6. Connect the power and motor wires to the new main panel in the same manner that they were removed from the old panel.

7. Make sure the thermal relays are set to the following values for 440V:

   Feed Motor Relay = 0.65A
   Sanding Motor Relay = 21.5A

8. Have the wiring job inspected by a qualified electrician.

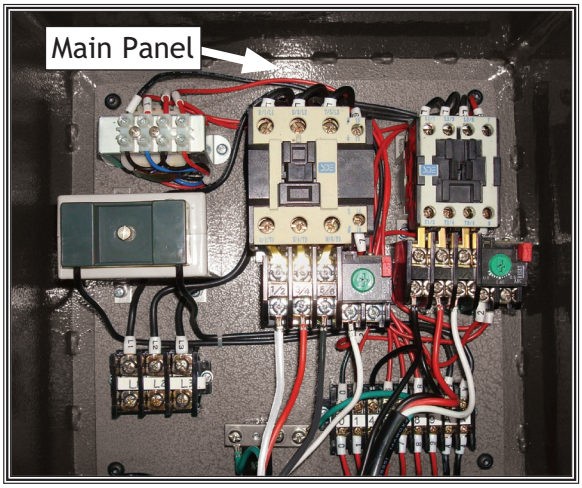


Figure 4. W1773 control box main panel, 3-phase 440V.

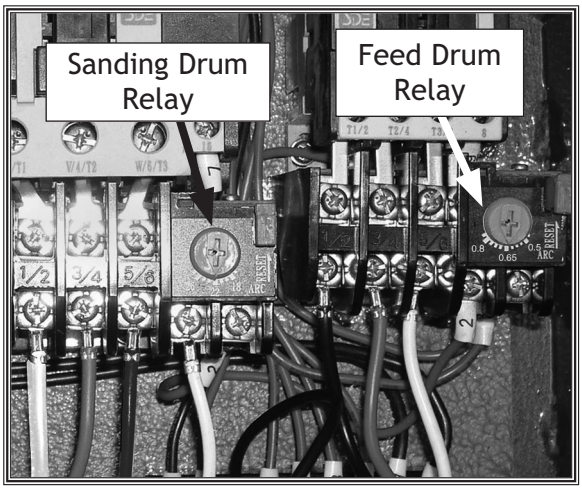
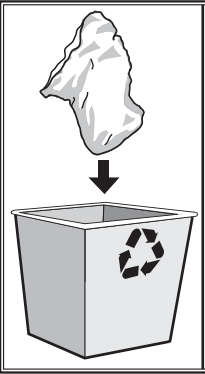


Figure 5. W1773 3-phase 440V thermal overload relay values.

SETUP

Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.



⚠WARNING

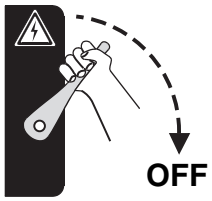
SUFFOCATION HAZARD! Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.

Items Needed for Setup

The following items are needed to complete the set up process, but are not included with your machine:

Description	Qty
• Safety Glasses (for each person)	1
• Power Lifting Equipment (forklift)	1
• Lifting Straps (min. 2000 lb capacity)	2
• An Assistant	1
• Power Cord (length as needed)	1
• Power Disconnect Box	1
• Dust Collection System	1
• Dust Hoses 4" (length as needed)	4
• Hose Clamp 4"	4

⚠WARNING



Disconnect power to the machine before you do any assembly or adjustment tasks! Otherwise, serious personal injury to you or others may occur!

Inventory

The following is a description of the main components shipped with the Model W1772/W1773. Lay the components out to inventory them.

Note: *If you can't find an item on this list, check the mounting location on the machine or examine the packaging materials carefully. Occasionally we pre-install certain components for safer shipping.*

Box Inventory (Figure 6)	Qty
A. Drum Sander	1
B. Control Panel	1
C. Handwheel	1
D. Top Cover	1

Tools (Not Shown)

—Hex Wrenches 4, 5mm	1 Ea
—Wrenches 12/14	1
—Phillips Head Screwdriver	1
—Spring Tension Tools	2
—Paper Retaining Clips	2
—Rubber Plates (Dust Scoop)	2

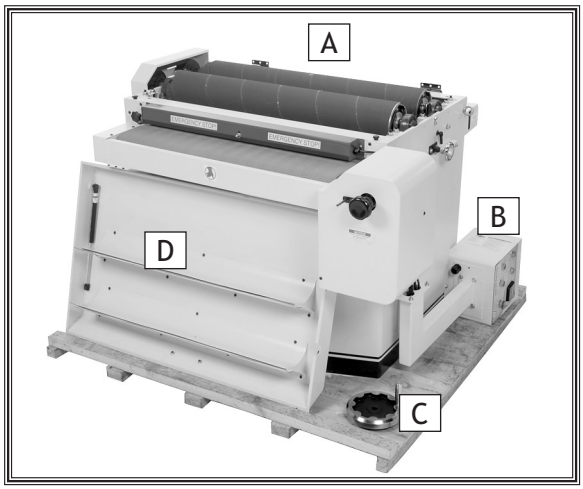


Figure 6. W1772/W1773 inventory.

Assembly

To attach the top cover, control panel, and handwheel to the drum sander, do these steps:

1. Remove the six button head cap screws from the top cover shown in **Figure 7,** and remove the two lock knobs shown in **Figure 8**.

2. Place the top cover on the sander and attach the hinges with the screws removed in **Step 1**.

Note: *To close the top cover fully, tuck the gas struts under the cover.*

3. While an assistant holds the top cover up, install each strut on a bracket with a jam nut, as shown in **Figure 9**. The threaded end of each strut should be flush with the outside of the bracket.

4. Close the top cover, remove the cap screws securing the pulley cover, and open the cover.

5. Pull the V-belt down to rotate the sanding drums, and listen for any scraping sounds.

— If the sanding drums scrape the plastic dust scoop or metal dust scoop plates on the top cover, refer to instructions on **Page 43** for adjusting the dust scoops.

— If you do not hear any scraping sounds go to **Step 6**.

6. Reinstall the pulley cover with the cap screws removed in **Step 4,** and reinstall the knobs removed in **Step 1**, to secure the top cover.

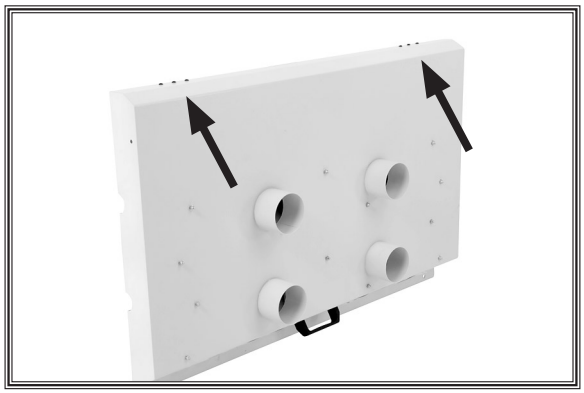


Figure 7. Removing cap screws on top cover.

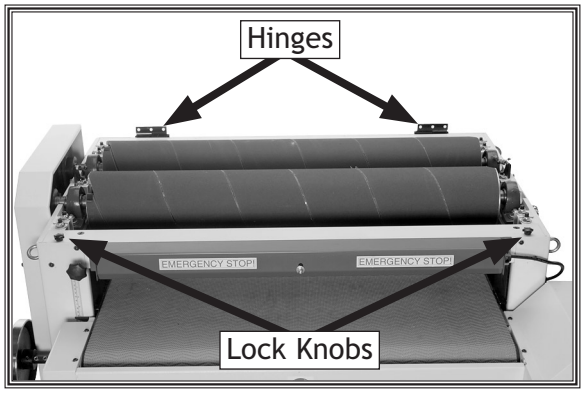


Figure 8. Lock knobs and hinges.

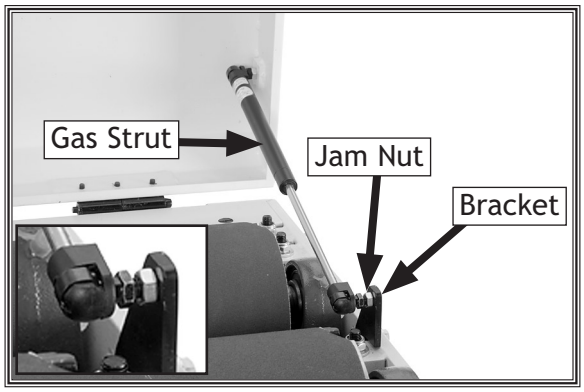


Figure 9. Gas strut installed (right side shown).

7. Remove the bolts, flat washers, and hex nuts from the control panel support arm, as shown in **Figure 10**.

8. Remove the right access panel.

9. With assistance, lift the control panel into place and secure it with the bolts, flat washers, and hex nuts removed in **Step 7**.

10. Reinstall the right access panel.

11. Attach the brace from the control panel to the sander as shown in **Figure 11**.

12. Place the handwheel over the shaft shown in **Figure 12** and tighten the set screw in the handwheel hub.

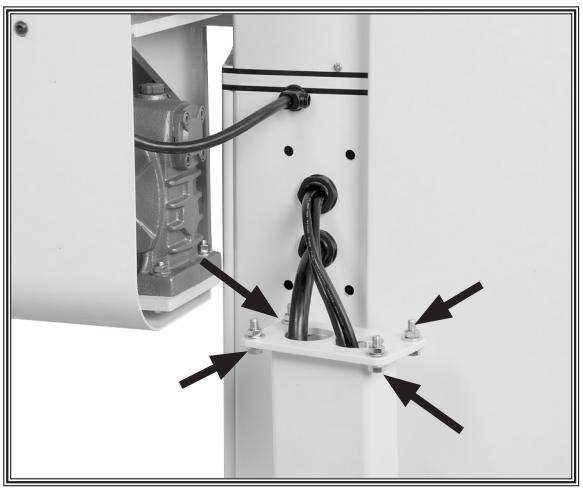


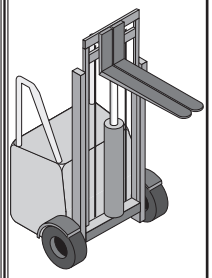
Figure 10. Control panel mounting bolts.

Figure 11. Control panel brace.

Figure 12. Handwheel installed.

Machine Placement

- **Floor Load:** This machine distributes a heavy load in a small footprint. Some residential floors may require additional bracing to support both machine and operator.
- **Working Clearances:** Consider existing and anticipated needs, size of material to be processed through the machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your drum sander (see **Figure 13** for minimum working clearances).
- **Lighting:** Lighting should be bright enough to eliminate shadow and prevent eye strain.
- **Electrical:** Electrical circuits must be dedicated or large enough to handle amperage requirements. Follow local electrical codes for proper installation of new lighting, outlets, or circuits.



⚠WARNING

The Model W1772/W1773 is an extremely heavy machine. Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate.

⚠WARNING

Use lifting straps with a combined minimum of 2000 lbs. lifting capacity. If lifting straps break, serious personal injury may occur.

⚠CAUTION

MAKE your shop "child safe." Ensure that your workplace is inaccessible to youngsters by closing and locking all entrances when you are away. NEVER allow untrained visitors in your shop when assembling, adjusting or operating equipment.

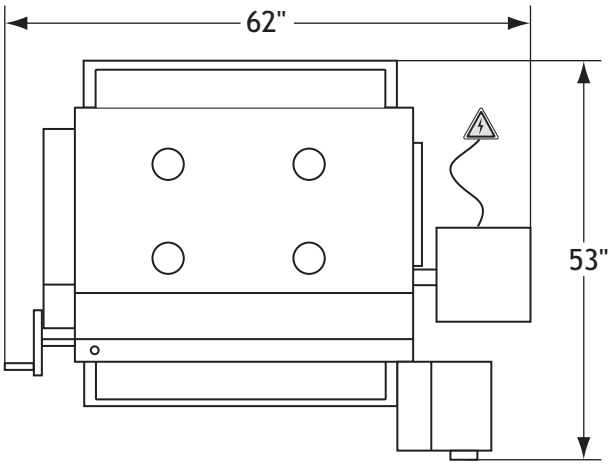


Figure 13. W1772/W1773 minimum working clearances.

Lifting Sander

To place the sander in a permanent location, do these steps.

1. Unbolt the sander from the pallet.

2. Position the forklift forks directly above the sander. Place two lifting straps with hooks on the ends over the forklift forks and slide the hooks into the eye-bolts shown in **Figure 14**.

3. Lift the sander and move it to your predetermined location. DO NOT lift it any higher than is necessary to clear the floor.

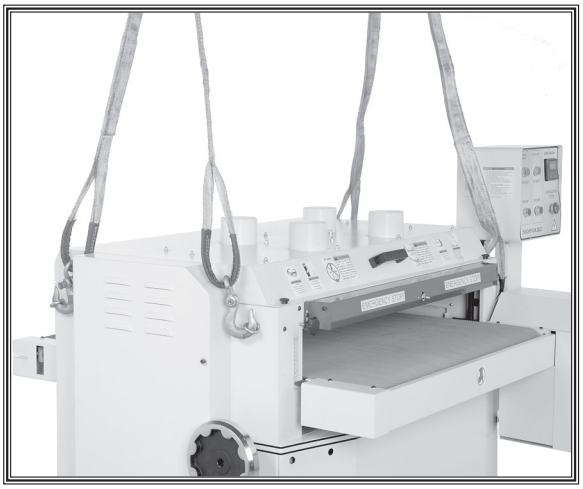


Figure 14. Lifting the sander.

Mounting to Shop Floor

Although not required, we recommend that you mount your new machine to the floor. Because this is an optional step and floor materials may vary, floor mounting hardware is not included.

Bolting to Concrete Floors

Lag shield anchors with 3/8" lag bolts or anchor studs (**Figure 15**) are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.

NOTICE

Anchor studs are stronger and more permanent alternatives to lag shield anchors; however, they will stick out of the floor, which may cause a tripping hazard if you decide to move your machine at a later point.

Bolting to Wood Floors

The most secure method of mounting this drum sander to a wood floor is using 3/8" hex bolts with flat washers, and securing the bolts from under the floor with flat washers, lock washers and hex nuts, as shown in **Figure 16**. Use lag bolts with washers only if you do not have access to the underside of the floor.

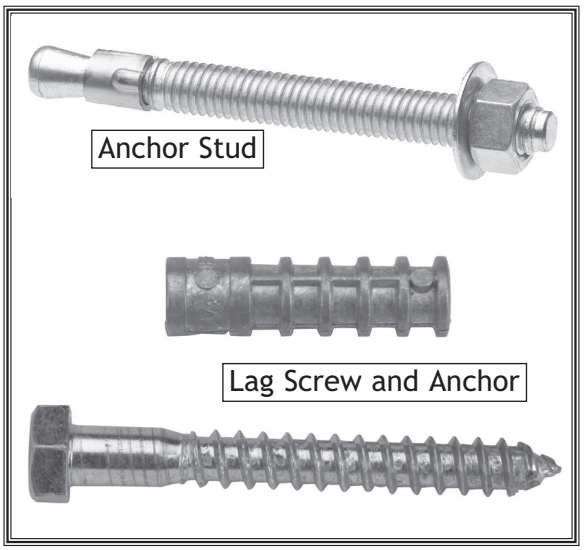


Figure 15. Typical fasteners for mounting to concrete floors.

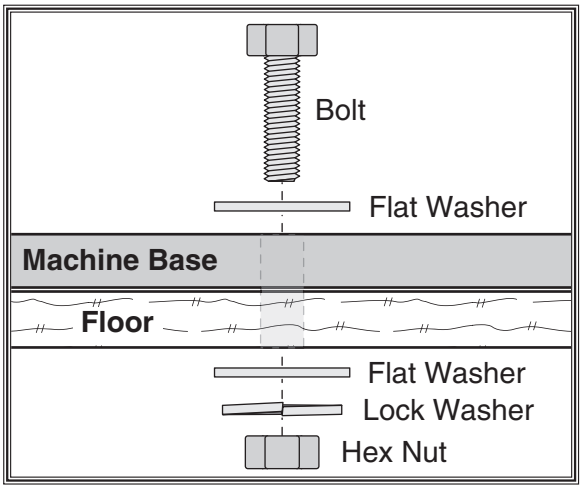


Figure 16. Bolting to a wood floor.

Dust Collection

Recommended CFM at Sander: ..... 1600 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must take into account many variables, including the CFM rating of the dust collector, the length of hose between the dust collector and the machine, the amount of branches or Y's, and the amount of other open lines throughout the system. Explaining this calculation is beyond the scope of this manual. If you are unsure of your system, consult an expert or purchase a good dust collection "how-to" book.

We recommend using a dust collection system that produces a minimum of 2000 CFM. A fine layer of dust will be present on your stock as it comes out of the sander. This is normal.

Figure 17. Dust port locations.

To connect the dust ports to a dust collector, do these steps:

1. Attach 4" dust collection hoses to the dust ports shown in **Figure 17** and secure them with hose clamps.

Power Connection

Before connecting to power, read through the **ELECTRICAL** section on **Page 11** to check that your setup follows the safety and circuit requirements for this machine. Be sure to also have your electrician on hand for the "Test Run" in case the power is connected out of phase (Model W1773 only).

To connect the sander to the power source, do these steps:

1. Remove the screws securing the control panel and lift off the face plate.

⚠WARNING

Attempting to connect this machine to the power source without a qualified electrician greatly increases the risk of electrocution, fire, or machine damage.

SET UP

2. Feed the power wires through the strain relief on the bottom of the control panel, tighten the strain relief, connect the cord to the terminals shown in **Figure 18** or **19,** and reinstall the control panel face plate.

Note (**Model W1773 Only):** *When using a phase converter, connect the manufactured power leg to the L1 terminal* (**Figure 19**). *The L1 terminal can handle power fluctuation because it is wired directly to the motor. The other wires connect to the controls and must be consistent to prevent damage.*

3. SHUT OFF THE MAIN POWER AT THE POWER SOURCE CIRCUIT BREAKER and attach the wires to the locking shutoff switch.

Gear Oil Check

It is important to make sure the gear box has adequate oil in it before running the sander for the first time, to ensure the gears do not burn up.

To check the gear oil, do these steps:

1. Remove the shipping seal from the side of the vented fill plug (**Figure 20**), if not already done so.

2. Check the sight glass shown on the back of the gear box to make sure gear oil is present.

3. If the gearbox oil level is low, follow the steps on **Page 30** to refill the oil.

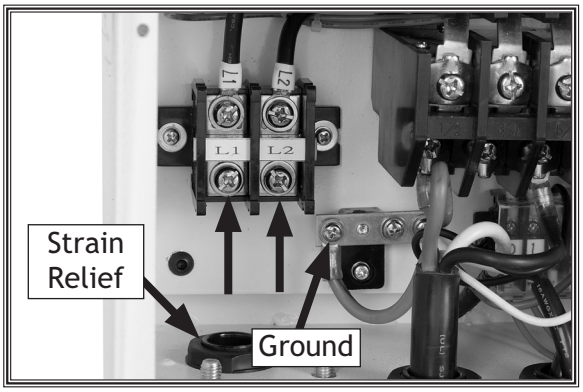


Figure 18. W1772 control panel wiring.

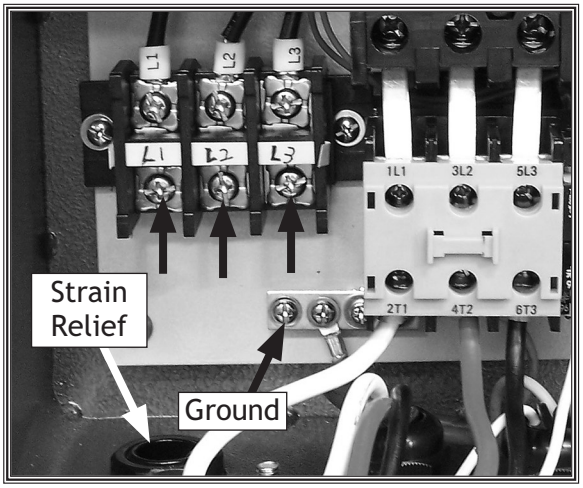


Figure 19. W1773 control panel wiring.

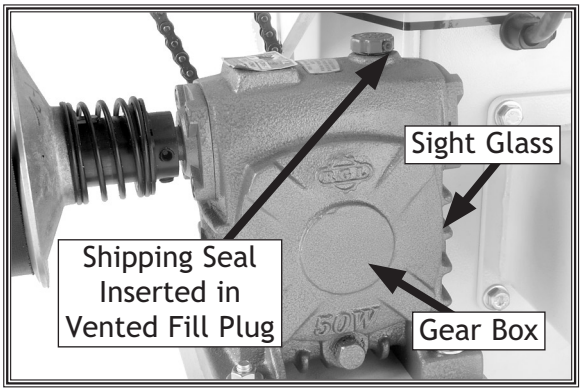


Figure 20. Typical vented fill plug (sight glass not shown).

Test Run

Once the assembly is complete, test run your machine to make sure it runs properly and is ready for regular operation.

The test run consists of verifying the following: 1) The motors power up and run correctly, 2) the motors turn the correct direction (machine is not wired out of phase (W1773 only), and 3) the stop button safety feature works correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 56**. If you still cannot remedy a problem, contact our Tech Support at (360) 734-3482 for assistance.

To test run the drum sander, do these steps:

1. Make sure you understand the safety instructions at the beginning of the manual, and verify that the machine is setup properly.

2. Make sure the feed motor gearbox is full of oil and the shipping seal is removed from the vented fill plug.

3. Ensure all tools and objects used during setup are cleared away from the machine, and all covers and panels are closed.

4. Push the EMERGENCY STOP button in, then twist it clockwise so it pops out. When the EMERGENCY button pops out, the switch is reset and ready for operation (see **Figure 21**).

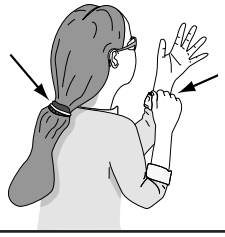
5. **Model W1772**: Press the CONVEYOR START button.

   — If any problems occur, press the EMERGENCY STOP BUTTON.

   Model W1773: Verify that the power is not connected out of phase by pressing the CONVEYOR START button, using the criteria below:

   — If the top of the conveyor belt moves toward the back of the machine, it is moving in the correct direction.

⚠WARNING



Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing rolled up and long hair tied up and away from machinery.

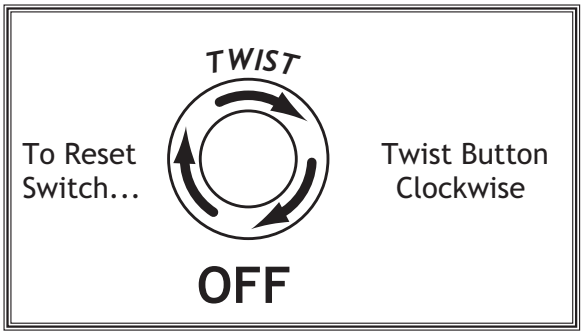


Figure 21. Resetting the switch.

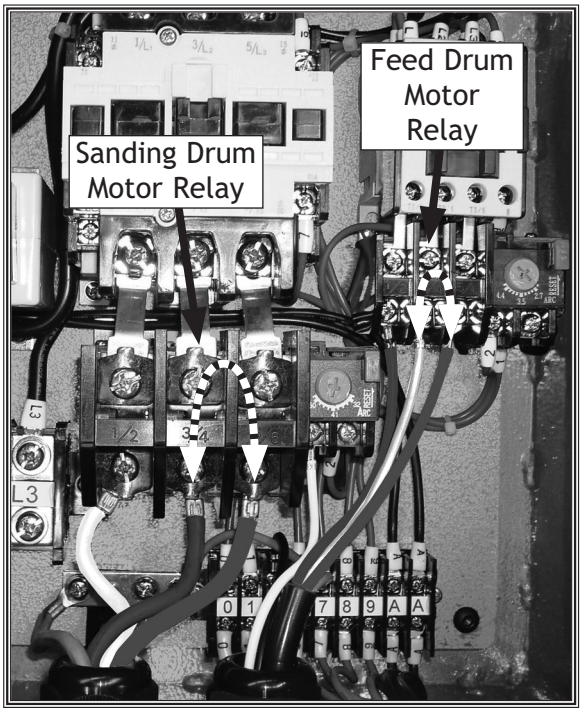


Figure 22. L2 and L3 feed and sanding drum relay wires switched.

SET UP

— If the top of the conveyor belt rotates toward the front of the machine, it is moving in the wrong direction. Stop the machine, shut ***OFF*** the power source, then swap any two wires at the feed motor relay (see **Figure 22**). If the W1773 is connected to a phase converter, swap the L2 and L3 wires to correct the conveyor belt rotation.

6. Press the CONVEYOR STOP button to stop the machine.

7. **Model W1772:** Press the SANDING DRUMS START and SANDING DRUMS STOP buttons. The sanding drums should start, run, and stop smoothly.

Model W1773: Verify that the power is not connected out of phase by pressing the SANDING DRUMS START button, using the criteria below:

— If the drums rotate toward the back of the machine, they are moving in the correct direction.

— If the drums rotate toward the front of the machine, they are moving in the wrong direction. Stop the machine, shut ***OFF*** the power source, then swap any two wires at the sanding drum motor relay (see **Figure 22**). If the W1773 is connected to a phase converter, swap the L2 and L3 wires to correct the sanding belt rotation. (The "wild wire" is connected to the L1 terminal.)

8. Press the EMERGENCY STOP button to stop the machine.

9. WITHOUT resetting the switch, press the CONVEYOR START button. The machine should not start.

— If the machine does not start, the EMERGENCY STOP button safety feature is working correctly.

— If the machine DOES start (with the EMERGENCY STOP button pushed in), immediately disconnect power to the machine. The STOP button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

10. Reset the EMERGENCY STOP button.

11. Press the CONVEYOR START button, then press the emergency stop bar. The sander will come to a complete stop. The stop bar should only be used during emergencies. The emergency stop bar switch will wear quicker if this feature is used for regular shut down.

— If the conveyor belt does not come to a complete stop, the emergency stop bar is not working correctly, immediately disconnect power to the machine and call Tech Support for help.

Recommended Adjustments

For your convenience, the adjustments listed below have been performed at the factory and no further setup is required to operate your machine.

However, because of the many variables involved with shipping, some of these adjustments may need to be repeated to ensure optimum results. Keep this in mind as you start to use your new drum sander.

Step-by-step instructions for these adjustments can be found in SERVICE.

1. V-Belt Tension (**Page 33**). Perform after the first 16 hours.

2. Conveyor Tensioning & Tracking (**Page 36**).

3. Drum Adjustments (**Page 38**).

4. Pressure Roller Height (**Page 42**).

OPERATIONS

Control Panel

Below is a summary of your sander control panel and the components that it controls. Use the list with **Figure 23** to become familiar with your sander.

A. Sanding Drums Start Button: Starts the sanding drums.

B. Conveyor Start Button: Starts the conveyor belt.

C. Amp Draw Meter: Indicates the combined amperage draw of both motors, to help control the load so as not to damage the motor.

D. Emergency Stop Button: Stops all electrical power to motors in event of emergency.

E. Conveyor Stop Button: Stops the conveyor belt.

F. Sanding Drums Stop Button: Stops the sanding drums.

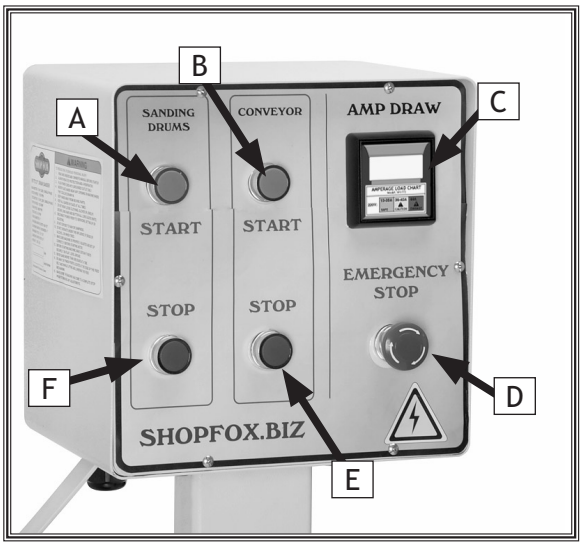


Figure 23. Control panel interface.

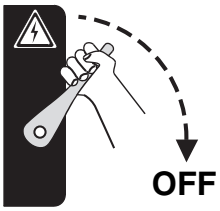
General

The Model W1772/W1773 will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. **If at any time you are experiencing difficulties performing any operation, stop using the machine!**

If you are an inexperienced operator, we strongly recommend that you read books, trade articles, or seek training from an experienced *Drum Sander* operator before performing any unfamiliar operations. **Above all, your safety should come first!**

WARNING



DO NOT investigate problems or adjust the machine while it is running. Wait until the machine is turned *OFF*, unplugged and all working parts have come to a complete stop before proceeding!

WARNING

Always wear safety glasses and a respirator when operating this machine. Failure to comply may result in serious personal injury, allergic reactions, or respiratory problems.

Depth of Cut

The optimum depth of cut will vary based on the type of wood, feed rate, and sandpaper grit. Under most sanding conditions, the depth should not exceed 1/64" (approx. 3/4 turn of the handwheel). Each full turn of the table height handwheel raises the conveyor table approximately 0.020". Attempts to remove too much material can cause jamming, wood burning, rapid paper wear or tearing, poor finish and belt slippage.

To set the depth of cut, do these steps:

1. Rotate the table height handle (**Figure 24**) until the table is too low, then raise the table, allowing a gap between the workpiece and the sanding drum.

   Note: *When adjusting the table to sand a thicker workpiece, lower and then raise the table to remove backlash from the adjustment mechanism.*

2. Start the conveyor and sanding drums and feed the workpiece into the sander. SLOWLY raise the conveyor table until the workpiece makes light contact with the sanding drums. This is the correct height to begin sanding the workpiece.

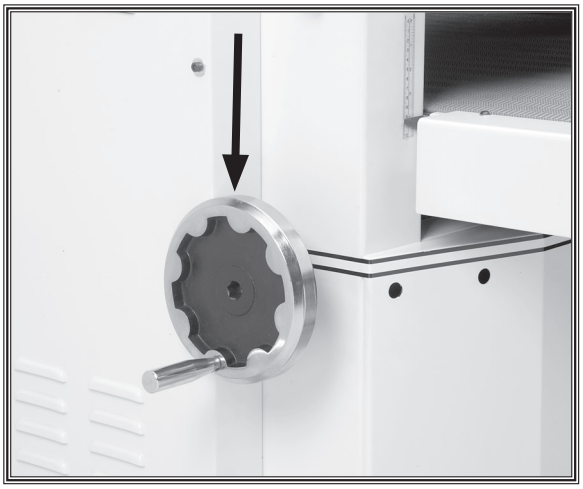


Figure 24. Table height handwheel.

Variable Speed

The variable speed knob allows you to increase the feed rate from 6–18 FPM. The correct speed to use depends on the type of stock you are using (hardwood vs. softwood) and the stage of finish you are at with that workpiece.

As a general rule, a slower feed rate will sand the surface smoother, but runs the risk of burning the wood; a faster feed rate will remove material faster, but runs the risk of overloading the motor. Use trial-and-error to determine the best settings for your specific applications.

To adjust the conveyor speed, do these steps:

1. Start the conveyor (DO NOT adjust conveyor speed when the conveyor motor is ***OFF***).

2. Rotate the variable speed knob (**Figure 25**) counterclockwise to increase the feed speed, or clockwise to decrease the feed speed.

NOTICE

Adjusting the variable speed when the conveyor motor is OFF can damage the V-belt and the adjusting mechanism.

Figure 25. Variable speed knob.

Using the Amp Draw Meter

The amp draw meter (**Figure 26**) is used to keep the machine from being overloaded during sanding operations.

As a general rule, always start with a shallow sanding depth and carefully increase the sanding depth. Keep the amp load in the green range during operation. Generally, the normal depth of cut is no more than 1/64" or 0.016" for a 36 1/2" wide board using coarse sandpaper. DO NOT work your machine in the red zone as shown on the Amperage Load Chart. If operated in the red zone, the motor will lose RPM, the start capacitor will energize, and capacitor or motor damage will occur.

Amp load is directly affected by many factors such as feed rate, depth of cut, wood type, sandpaper grit, and workpiece width.

W1772 Maximum Amp Load 44A
W1773 Maximum Amp Load at 220V 40A
W1773 Maximum Amp Load at 440V 20A

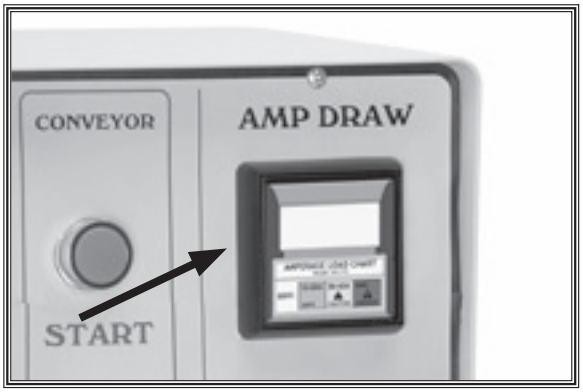


Figure 26. Amp draw meter.

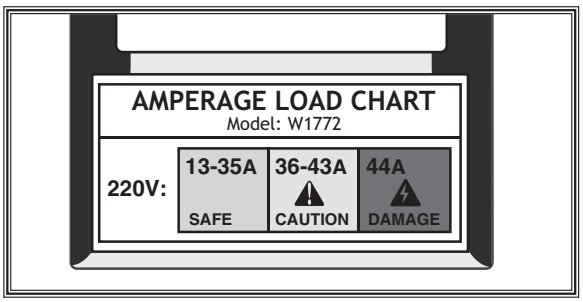


Figure 27.W1772 amp load chart.

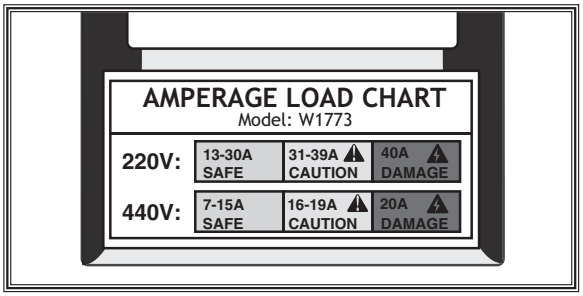


Figure 28. W1773 amp load chart.

Sanding

To sand a workpiece, do these steps:

1. Adjust the table height according to the instructions in **Depth of Cut** on **Page 24**.

2. Start the dust collector, the drum motor, and the feed motor.

3. Feed the workpiece through the sander while standing to the side and monitor the amp meter; if it approaches the maximum amp load, lower the conveyor table.

4. Run wide stock through two or three times without adjusting the table height. Turn the stock 180° between passes to ensure an even cut. Do not sand more than one workpiece at a time side-by-side.

⚠WARNING

Close all covers and panels before starting the drum sander. Failure to do so could result in severe personal injury.

⚠WARNING

DO NOT sand more than one board at a time side-by-side. Minor variations in thickness can cause one board to be propelled by the rapidly spinning sanding drum and ejected from the machine. NEVER stand directly in front of the machine. Failure to do so could result in severe personal injury.

Sanding Tips

- Replace the sandpaper with a higher grit to achieve a finer finish.
- Raise the table with a maximum of 3/4 turn of the height handle until the workpiece is the desired thickness.
- Reduce snipe when sanding more than one board of the same thickness by feeding them into the sander with the front end of the second board touching the back end of the first board.
- Feed boards into the sander at different points on the conveyor to maximize sandpaper life and prevent uneven conveyor belt wear.
- Replace the sandpaper with a higher grit to achieve a finer finish.
- Raise the table with a maximum of 3/4 turn of the height handle until the workpiece is the desired thickness.
- DO NOT sand boards less than 9" long or less than 1/16" to prevent damage to the workpiece and the drum sander.
- Extend the life of the sandpaper by regularly using a PRO-STICK® sanding pad (**Page 29**).
- When sanding workpieces with irregular surfaces, such as cabinet doors, take very light sanding passes to prevent gouges. When the drum moves from sanding a wide surface to sanding a narrow surface, the load on the motor will be reduced, and the drum will speed up, causing a gouge.
- DO NOT edge sand boards. This can cause boards to kickback, causing serious personal injury. Edge sanding boards also can cause damage to the conveyor belt and sandpaper.
- When sanding workpieces with a bow or crown, place the high point up (prevents the workpiece from rocking) and take very light passes.
- Feed the workpiece at an angle to maximize stock removal and sandpaper effectiveness, but feed the workpiece straight to reduce sandpaper grit scratches for the finish passes.

Choosing Sandpaper

There are many types of sanding belts to choose from. We recommend Aluminum Oxide for general workshop environments. To the side is a chart that groups abrasives into different classes, and shows which grits fall into each class.

The general rule of thumb is to sand a workpiece with progressively higher grit numbers, with no one grit increase of more than 50. Avoid skipping grits; the larger the grit increase, the harder it will be to remove the scratches from the previous grit.

The Model W1772/W1773 allows you to place a different grit sandpaper on each drum. The front drum should have a coarser grit than the rear. Usually this translates into combinations of successive group types. A common selection for stock that is planed before being sanded is a 100/150 grit combination.

Ultimately, the type of wood you use and your stage of finish will determine the best grit types to install on your sander.

Grit	Class	Usage
36	Extra Coarse	Rough sawn boards, thickness sanding, and glue removal.
60	Coarse	Thickness sanding and glue removal.
80–100	Medium	Removing planer marks and initial finish sanding.
120–180	Fine	Finish sanding.

Paper Replacement

The Model W1772/W1773 is designed for 6" wide sandpaper rolls.

To change the paper, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Lift the top cover and place a screwdriver through the right side of the frame, as shown in **Figure 29**.

3. Rotate the sanding drum to stretch the tension spring. Fit the end of the spring tension tool shaft through the hole in the tension wheel arm (see **Figure 29**) and into the head of the cap screw securing the spring.

4. Remove the screwdriver.

5. Repeat **Steps 2-4** on the opposite end of the sanding drum, then remove the spring clips. **Note:** *Replace the paper on each drum individually. Once the paper is removed the drums can be slippery and hard to rotate.*

6. Unwind the old sandpaper and use it as a pattern, or use the pattern in **Figure 30** to cut the sandpaper to the necessary shape, or see **Figure 31** if using a different width of sandpaper.

7. Start with the left side of the drum, fold the corner of the sandpaper into the spring clip, then install the clip onto the tension wheel. Tap the clip with a hammer or mallet to ensure it is seated. **Note:** *DO NOT pound the clip over the sandpaper. It is not necessary to drive the clip completely on, just make sure it is secure. Too much force will break the clip!*

8. Tightly spiral the paper onto the drum, ensuring there are no bubbles or overlapping edges, leaving a uniform $^{3}/_{16}$" gap between the spirals as you wind the paper around the drum.

9. Fold the corner of the loose end into the spring clip, then install the clip onto the right tension wheel.

10. Remove the spring tension tool from the ends of the sanding drum to tension the paper, and repeat **Steps 2-10** for the other drum.

NOTICE

Turn to **SECTION 5: ACCESSORIES** on **Page 29** for grit selection and model numbers.

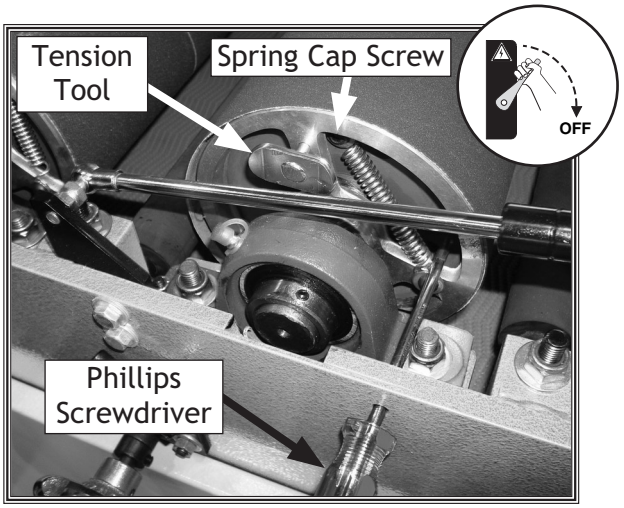


Figure 29. Locking the tension wheel.

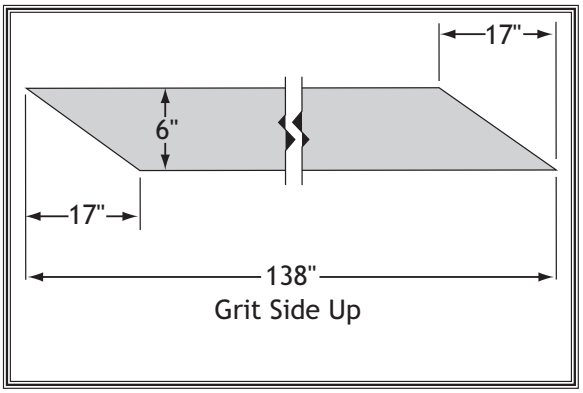


Figure 30. Sandpaper pattern.

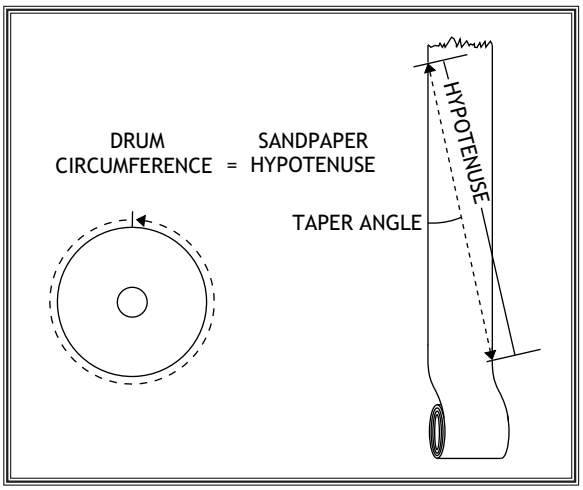
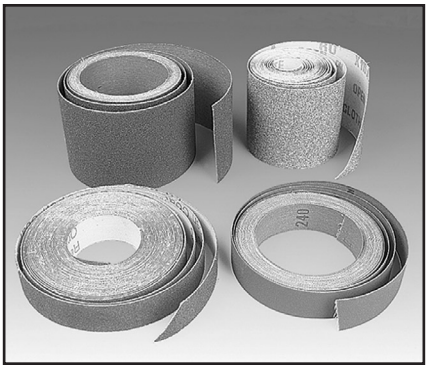


Figure 31. Finding sandpaper taper angle.

OPERATIONS

Drum Sander Accessories

The following drum sander accessories may be available through your local Woodstock International Inc. Dealer. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing of dealers at: 1-800-545-8420 or at sales@woodstockint.com.



6" x 50' **Aluminum Oxide Sanding Rolls** provide superior performance and added flexibility. Simply tear off the size needed for excellent results.

Model	Grit	Use
D3881	60	Thickness sanding, glue removal
D3882	80	Removing planer marks and initial finish sanding
D3883	100	Removing planer makrs and initial finish sanding
D3884	120	Finish sanding
D3885	150	Finish sanding

The **D3003 PRO-STICK® Sanding Pad** can help extend the life of your sandpaper! Just feed this crepe-rubber cleaning pad through your drum sander to remove dust build-up from the sandpaper without damage. Measures 15" x 20" x 1".

The **D2271 Roller Table** is helpful wherever you need additional workpiece support. Features all-steel welded construction and measures 19" x 65". Comes with nine ball bearing rollers and has four independently adjustable legs for any leveling requirement. Adjustable in height from $6^{3}/_{8}$" to $4^{1}/_{8}$. 78 lbs. 1000 lb. capacity.

MAINTENANCE

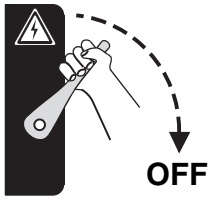
General

Regular periodic maintenance on your Model W1772/W1773 will ensure its optimum performance. Make a habit of inspecting your machine each time you use it.

Check for the following conditions and repair or replace when necessary:

- Loose mounting bolts.
- Worn switch.
- Worn or damaged cords and plugs.
- Worn or damaged sandpaper.
- Damaged V-belts.
- Any other condition that could hamper the safe operation of this machine.

WARNING



MAKE SURE that your machine is unplugged during all maintenance procedures! If this warning is ignored, serious personal injury may occur.

Cleaning

Cleaning the Model W1772/W1773 is relatively easy. From time to time, vacuum wood dust off of the internal components, especially the motor.

Lubrication

Moving parts, such as chains, should be lubricated periodically with a light machine oil. Motor bearings need no lubrication.

Pillow Bearing: Must be lubricated every 20 hours of operation. Use a high-quality, lithium-based grease. A grease fitting (**Figure 32**) is located on the top of each pillow bearing. Give only one to two pumps of the grease gun. Too much grease can pop seals out.

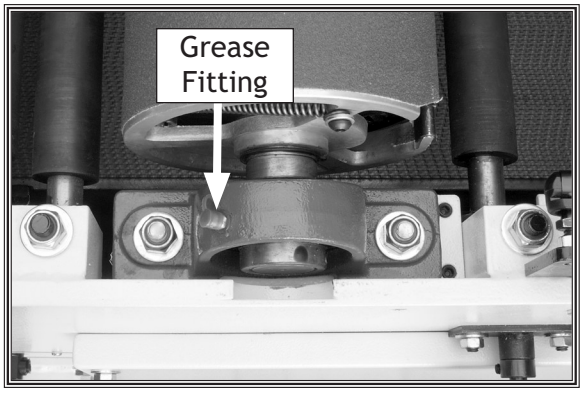


Figure 32. Location to lubricate pillow bearing.

Gearbox: Change the oil in the gearbox every 500 hours with new 80-90W automotive grade gear oil.

1. Remove the variable speed knob, the hex nut, knurled collar, and the four button head screws securing the feed motor cover (see **Figure 33**).

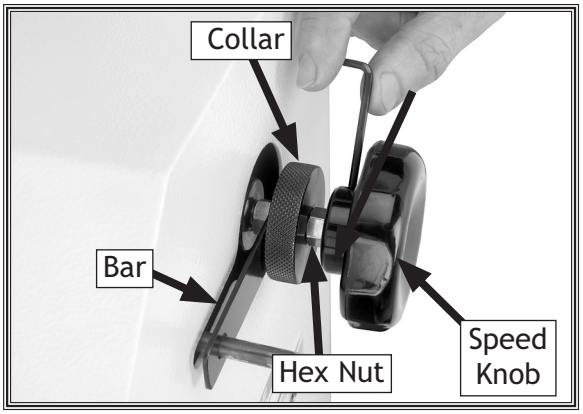


Figure 33. Removing feed motor cover.

2. Remove the feed motor cover, loosen the four hex bolts (**Figure 34**) that secure the gear box to the motor bracket, and remove the V-belt.

3. With the oil and gearbox warm, slide the gearbox out, remove the fill plug (**Figure 34**), remove the drain plug, drain the oil, and reinstall the drain plug.

4. Add new oil, reinstall the fill plug, then reinstall the gearbox, cover, and other components removed in **Step 1**.

Table Lift Screws: Should be cleaned with mineral spirits and painted with lithium grease every six months. Then, move the table up or down to spread the grease thoroughly over the threads. Do not overlubricate.

Worm Gear: Paint a light coat of lithium grease on the worm gear threads (**Figure 36**) once a year.

⚠WARNING

Failure to routinely inspect your drum sander for damage and wear could result in unsatisfactory work results, premature component or machinery failure, or operator injury. We recommend you create a checklist for routine inspection and maintenance. Remember to always disconnect the drum sander from its power source before attempting to inspect, adjust, or repair this machine!

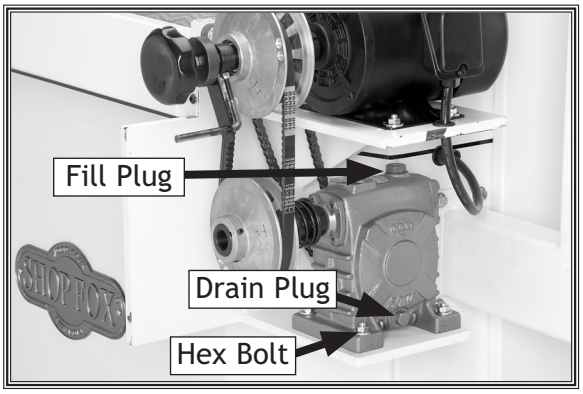


Figure 34. Lubricating gear box.

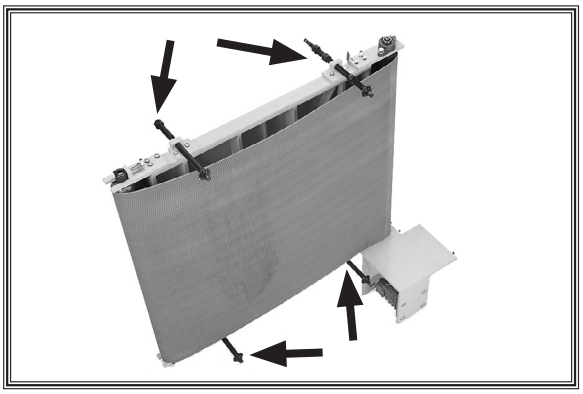


Figure 35. Table lift screws (table removed for clarity).

Figure 36. Worm gear threads.

SERVICE

General

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: **tech-support@shopfox.biz**.

Gauge Blocks

The gauge blocks described here will be required to complete most of the service procedures in this section. After you have made them, they can be conveniently stored inside of the sander cabinet for future use.

To make the gauge blocks, do these steps:

1. Edge joint the concave edge of a 7' long 2x4 flat on a jointer, as shown in **Figure 37**.

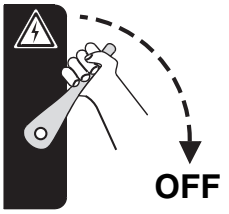
2. Place the jointed edge of the 2x4 against the table saw fence and rip cut just enough off the opposite side to square up the two edges of the 2x4, as shown in **Figure 38.**

3. Using a miter saw or circular saw, cut 6" off each end of the board to remove any portions with slight snipe from jointing. Then cut the 2x4 into two even pieces to make two 36" long wood gauge blocks.

   Note: *Save one of the 6" pieces for making a small gauge block in* ***Drum Adjustments*** *on* ***Page 38****.*

   Steps 1 & 2 *above can be skipped, but having these wood gauge blocks at an even height is critical to the accuracy of your overall adjustments.*

WARNING



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

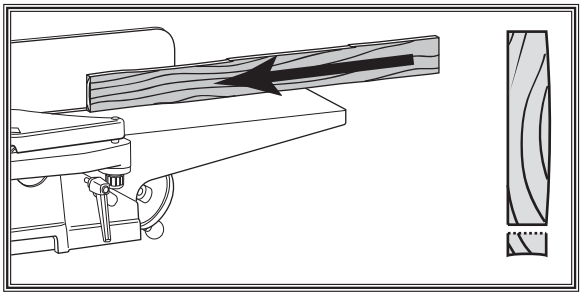


Figure 37. Edge jointing on a jointer.

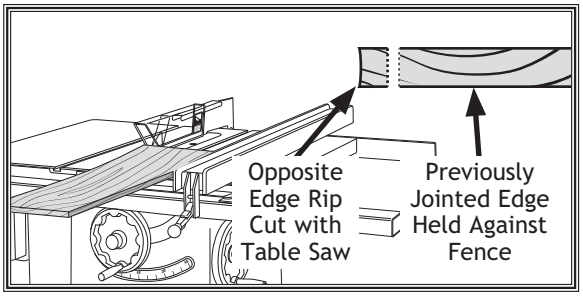


Figure 38. Rip cutting on a table saw.

V-Belt Service

Tension

New V-belts often stretch and loosen up during the first 16 hours of use. After this period, they should be inspected and re-tensioned if necessary.

Proper tension is important for optimum power transmission. However, too much tension may cause premature bearing failure.

The correct V-belt tension is achieved when the V-belts can be deflected $^1/_2$"–$^3/_4$" when pushed in the middle with moderate pressure. See **Figure 39** for an example of how to perform a V-belt deflection test with a straightedge and ruler.

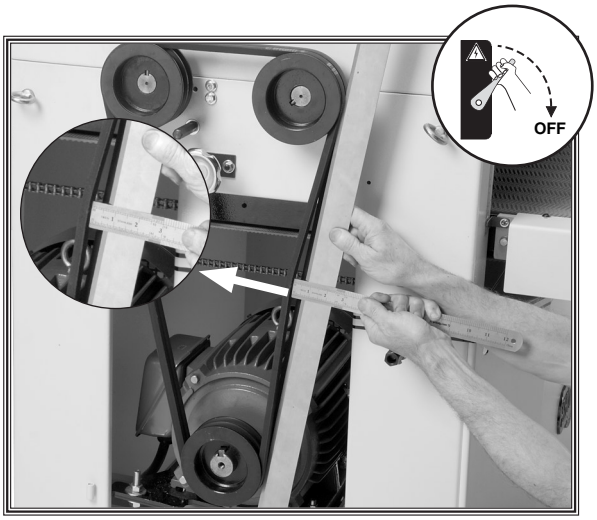


Figure 39. Checking V-belt tension with a straightedge and a ruler.

To adjust V-belt tension, do these steps:

1. DISCONNECT POWER TO THE SANDER!
2. Remove the table height handwheel and open the pulley cover.
3. Using a 19mm wrench, turn the motor mount nuts in the direction shown in **Figure 40** to loosen or tighten the V-belts.
4. Close the pulley cover and reinstall the handwheel.

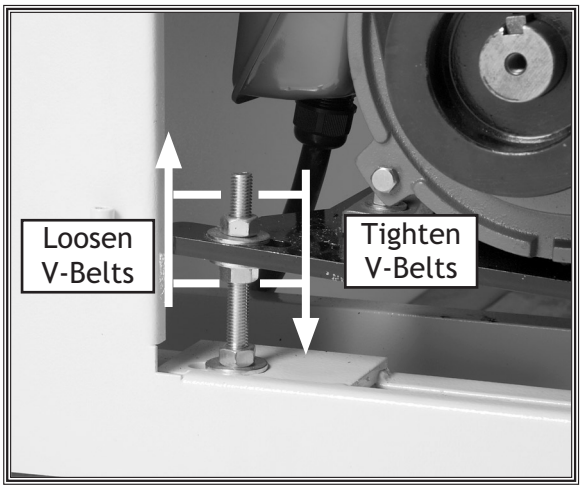


Figure 40. V-belt tension controls.

Removal/Replacement

Replace the V-belt if you notice fraying, cracking, glazing, or any other damage. A worn/damaged V-belt will not provide optimum power transmission from the motor to the drums.

V-belt removal and replacement is simply a matter of loosening the V-belts until you can roll them off the pulleys, replacing them with a MATCHED set, then re-tensioning them.

Note: *A matched set means both the V-belts are the same size and also have the same serial number.*

Pulley Alignment

Pulley alignment is another important factor in power transmission and belt life. The pulleys should be parallel to each other and in the same plane (coplaner) for optimum performance.

Each pulley can be adjusted by loosening the set screw that secures the pulley to the shaft, sliding the pulley in/out, and retightening the set screw to lock the pulley in place.

To align the pulleys, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Remove the table height handwheel, open the pulley cover, and remove the V-belts.

3. Place a straightedge across the face of the motor pulley and the front drum pulley to check the alignment. The straightedge should sit evenly on the top and bottom part of both pulleys, as shown in **Figure 41**.

4. Repeat **Step 3** with the straightedge placed against the motor pulley and rear drum pulley.

5. Loosen the pulleys and adjust them as necessary until they are all coplanar with each other.

6. Close the pulley cover and reinstall the handwheel.

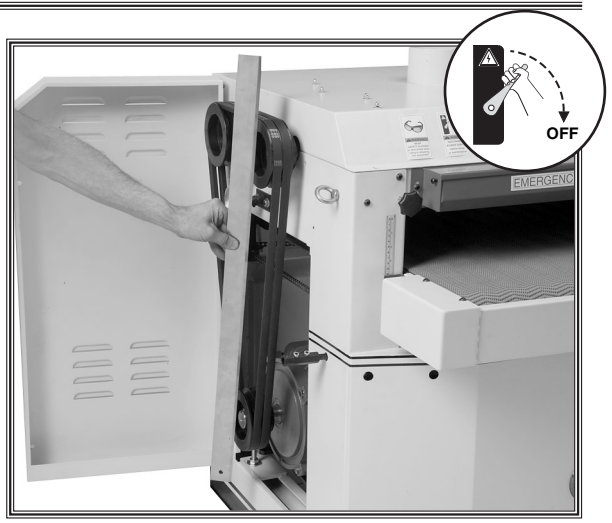


Figure 41. Checking pulley alignment with a straightedge.

Bearing Replacement

The Model W1772/W1773 is designed for many years of reliable service. But after long periods of heavy use, it may be necessary to replace the drum bearings. Always replace both bearings on the same drum.

To replace the drum bearings, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Open the top cover, and remove the mounting nuts, washers, and set screws shown in **Figure 42**.

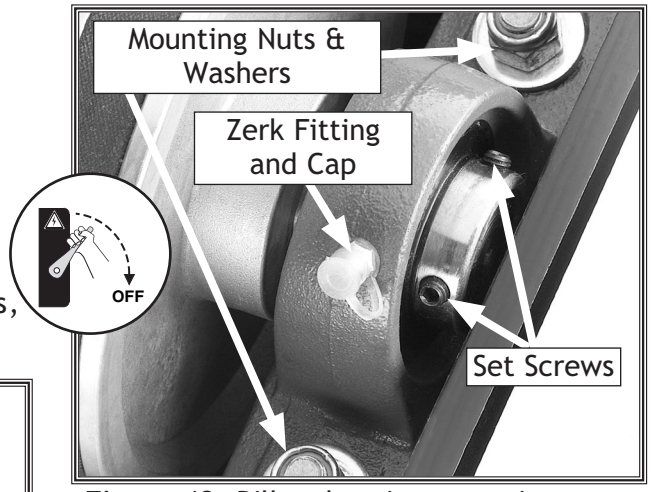


Figure 42. Pillow bearing mounting nuts, washers, and set screws.

NOTICE

Do not hammer on the bearing or housing, as you WILL damage these precision parts.

3. Lift the drum and slide the bearing housing and bearing from the drum shaft.

4. Clean and inspect the drum shaft for cracks, burrs, wear, and other damage; replace/repair as required.

5. Use a screwdriver to pry and rotate the bearing so it is horizontal to the bearing-housing mounting flanges, as shown in **Figure 43**.

6. Slide the bearing out of the bearing housing, as shown in **Figure 44**.

7. Remove any metal or abrasives trapped in the bearing grease groove and grease port (see **Figure 45**), or contaminants will be pumped into the new bearing when you lubricate it, causing bearing failure.

8. Clean and inspect the bearing-housing for cracks, burrs, wear, and other damage; replace/repair as required. The bearing race should rotate inside of the bearing housing smoothly. If the race is loose or wobbles inside of the bearing housing, replace the bearing housing (**Figure 44**).

NOTICE

Make sure the bearing grease hole in the bearing lines up with the grease groove in the bearing housing and that no obstructions prevent bearing lubrication.

9. Insert the new bearing into the bearing housing so the set screws and hub are on the same side as the grease Zerk on the bearing housing (**Figures 42** and **46**).

10. Slide (DO NOT hammer) the bearing housing and bearing onto the drum shaft.

11. Lower the drum and pillow bearing onto the mounting studs, and install the flat washers and the nuts. Tighten the nuts in an alternating pattern until snug.

12. Install and tighten the set screws.

13. Wipe the Zerk fitting clean, and lubricate the bearing with just enough grease to slightly seep from the dust seal and wipe clean (these bearings are not prelubricated). DO NOT over-grease.

14. Repeat **Steps 3—13** on all other bearings that need replacement. Always replace both bearings on the same drum.

15. Adjust the drums and pressure rollers as outlined on **Pages 38 & 42**.

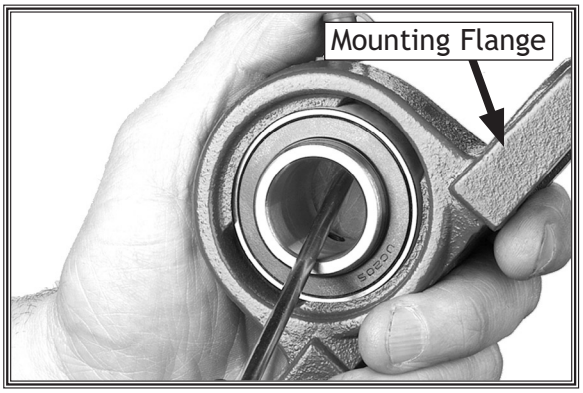


Figure 43. Bearing positioning for removal.

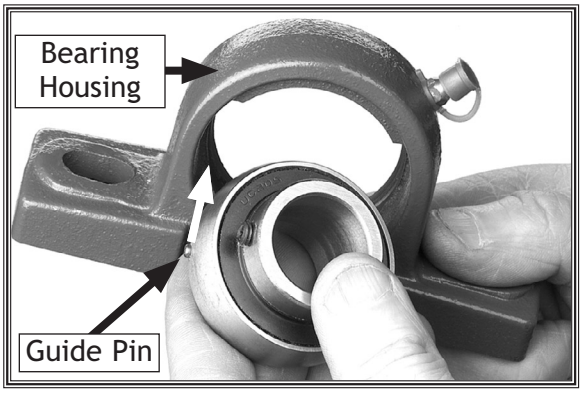


Figure 44. Typical removal and installation bearing positioning.

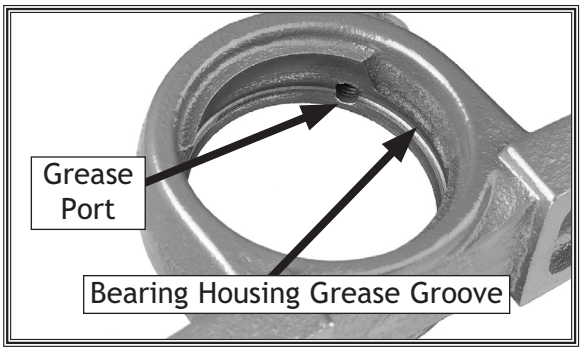


Figure 45. Typical bearing-bloock grease groove and grease port.

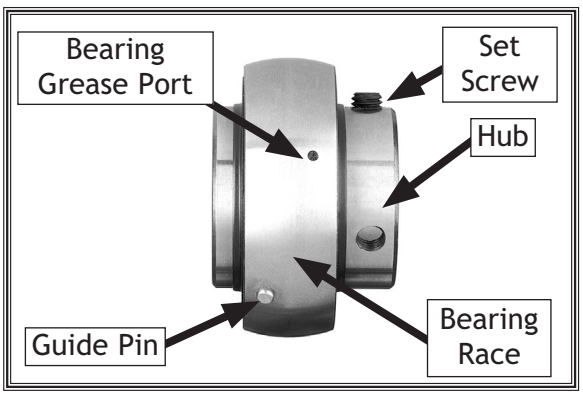


Figure 46. Key bearing parts

Conveyor Tensioning & Tracking

Tensioning

The conveyor may slightly stretch with continued use and will eventually need to be tensioned. This is most obvious if the conveyor starts slipping on the rollers.

When you tension the conveyor, focus on turning the adjustment bolts in even increments. Tensioning one side more than the other will cause tracking problems, which will require you to take additional steps to get the sander operating correctly.

To tension the conveyor, do these steps:

1. Using a 19mm wrench, loosen the lock nut (see **Figure 47**) on both sides of the conveyor.

2. Measure the distance from the frame to the conveyor roller on both sides. Turn the adjustment bolts so the distance between the frame and conveyor roller is identical on both sides. Do not overtighten the conveyor. Your goal is to reach a $^{3}/_{4}$" gap between the underside of the conveyor and the belt, as shown in **Figure 48**.

3. Use a magic marker, white out, or fingernail polish to mark the front of the conveyor tensioning bolt on both sides.

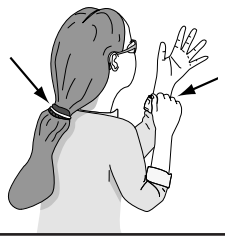
   This step will aid you in keeping track of the rotations as you turn the bolts, so the bolts remain as even as possible.

4. Turn both of the conveyor adjustment bolts clockwise one full turn at a time until the conveyor belt no longer slips during operation.

   — If the conveyor starts tracking to one side, immediately turn the drum sander ***OFF*** and perform the tracking instructions.

5. Tighten the lock nuts to lock the conveyor adjustment bolts in place.

⚠WARNING



Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing rolled up and long hair tied up and away from machinery.

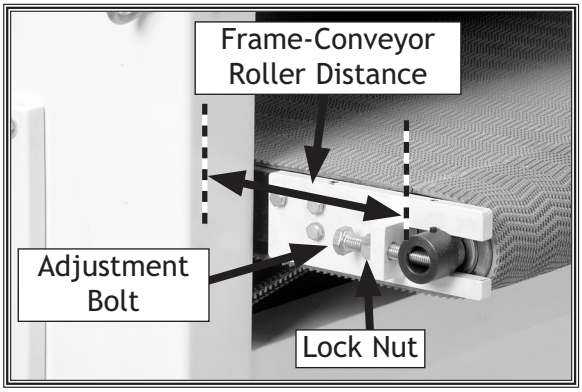


Figure 47. One side of conveyor tensioning & tracking controls (guard removed for clarity).

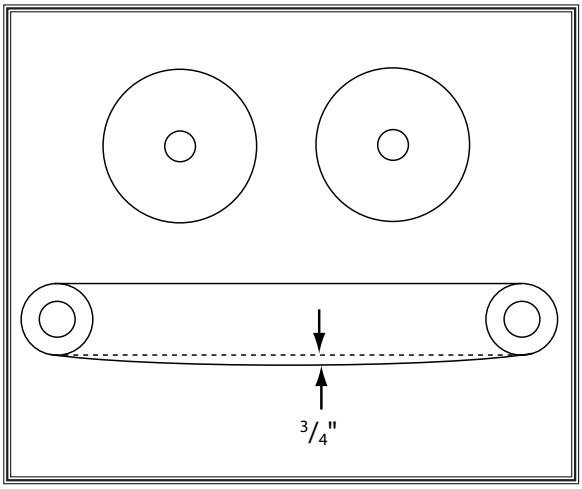


Figure 48. Conveyor belt hanging gap.

SERVICE

Tracking

If the conveyor tracks to either side, then the tracking must be corrected or the conveyor will load up to one side and could rip or tear and have to be replaced.

Replacing a damaged conveyor is a big job. Always be careful to make sure that the belt does not travel too far to one side or the other.

Tracking the conveyor is a balancing process that takes patience and some trial-and-error. Usually you must tighten the loose side (the side the belt is tracking towards) to make the conveyor move to the middle of the rollers, then loosen that same side to make the conveyor stay in position. If you adjust the bolt too much either way, then you have to repeat the process until the conveyor rides in the middle and stays there during continuous operation.

To track the conveyor, do these steps:

1. Make sure the drums are perpendicular to the feed direction (parallel with the conveyor roller). Go to **Page 38**.

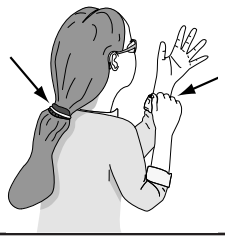
2. Turn the conveyor ***ON*** and watch it track.

3. Determine which side the conveyor is tracking towards (the loose side) and tension the adjustment bolt on that side until the conveyor tracks in the opposite direction. **Note:** *Tracking changes may take up to three minutes before they are noticeable*.

4. When the conveyor is near the middle of the rollers or table, loosen the adjustment bolt until the conveyor stops moving and tracks straight.

   — If the conveyor tracks too far to the other side, then adjust the bolt as necessary to bring it back and repeat **Steps 2 & 3** until the tracking is correct.

⚠WARNING



Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing rolled up and long hair tied up and away from machinery.

SERVICE

Drum Adjustments

There are three adjustments for the sanding drums: 1) the drums must be perpendicular to the feed direction (parallel with the conveyor roller, **Figure 49**); 2) the drums must be parallel to the top of the conveyor belt (**Figure 54, Page 40**); 3) the rear drum must be set approximately 0.007" to 0.015" below the front drum (**Figure 58, Page 41**).

At some point, you may need to readjust the rear drum parallel to the conveyor if you change the rear drum height to accomodate for different sandpaper thicknesses or finish requirements. Make sure the rear drum does not sit lower than 0.015" below the front drum.

Adjusting Drums Perpendicular to Feed Direction

The tolerances for having the drum perpendicular to the feed direction allow up to 1/8" difference from one side to the other (see **Figure 49**). If the drums are not perpendicular to the feed direction (in other words, parallel to the conveyor rollers), they may put a side load on the conveyor belt during operation, forcing the conveyor to track off to the side and possibly causing damage.

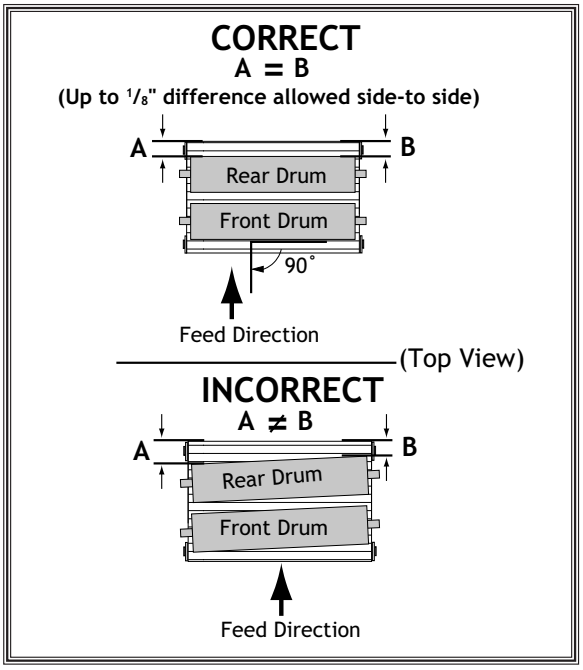


Figure 49. Drum perpendicular to feed direction.

To adjust the drums perpendicular to the feed direction, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Check to make sure the conveyor roller is parallel to the machine frame, and make adjustments if needed. (Refer to **Page 36.**)

3. Open the top and pulley covers and remove the V-belts (refer to **Page 33** for V-belt removal instructions).

4. Remove the sandpaper from the drums for best results.

5. At both ends of the rear drum, measure the distance between the edge of the rear drum and the rear upper frame, as shown in **Figure 50**. The difference between these two measurements will tell you how close the drum is to being perpendicular to the feed direction (assuming that the conveyor roller is parallel to the machine frame).

   — If the difference between the two measurements at each end are within 1/8", skip to **Step 8**.

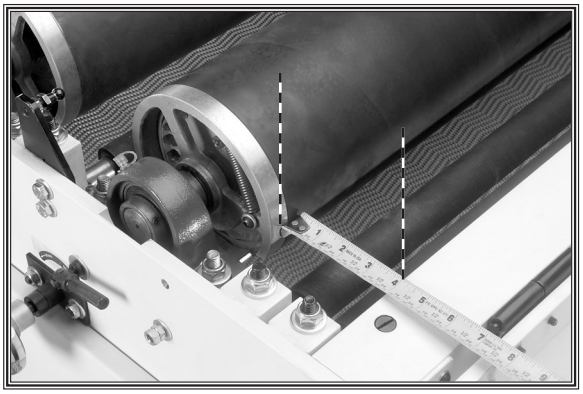


Figure 50. Measuring distance between edge of rear drum and the upper frame.

SERVICE

— If the difference between the two measurements at each end is more than 1/8", continue to the next step.

6. Loosen the rear drum pillow bearing lock nuts, shown in **Figure 51**.

7. Move one end of the drum forward or backward as needed in the slotted holes until the distance between the rear upper frame angle and drum is within 1/8" at each end, then tighten the rear drum pillow bearing lock nuts.

8. Measure the distance between the rear and front drum, as shown in **Figure 52**, on both sides.

— If the difference between the two measurements at each is equal or are within 1/8", skip to **Step 13**.

— If the difference between the two measurements at each end is more than 1/8", continue to the next step .

9. Make two gauge blocks the same width as your measurement in **Step 8**.

10. Place the small gauge blocks on each end of the pressure roller between both drums as shown in **Figure 53**.

11. Loosen the front drum pillow bearing lock nuts (**Figure 51**).

12. Slide the front drum against the gauge blocks until they are snug between the front and rear drum. This will make the front drum parallel to the rear drum—which is parallel to the rear frame (conveyor rollers) and perpendicular to the feed direction.

13. Now, go to **Setting Rear Drum Height** & **Adjusting Drums Parallel to Conveyor Belt** on **Page 40**.

14. Tighten the front drum pillow bearing lock nuts.

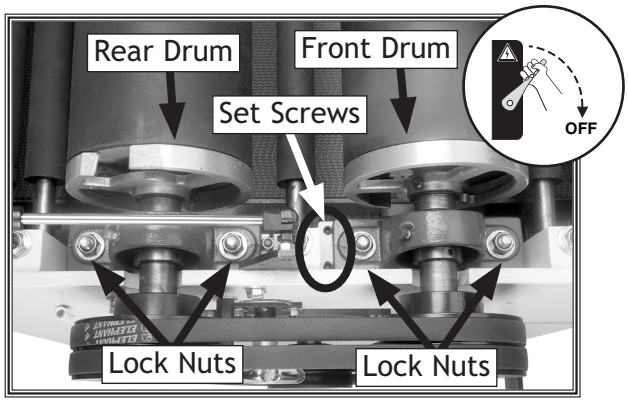


Figure 51. Front and rear drum adjustment locations.

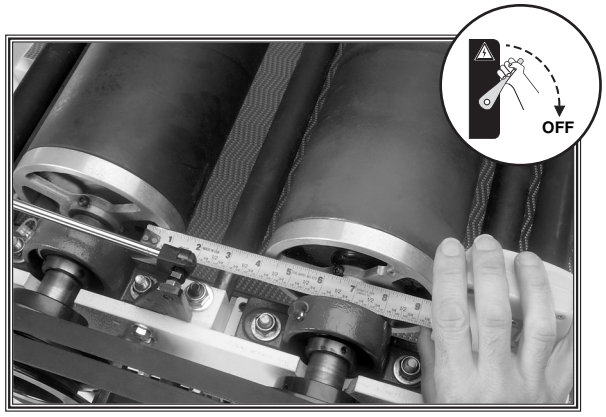


Figure 52. Measuring distance between rear and front drums.

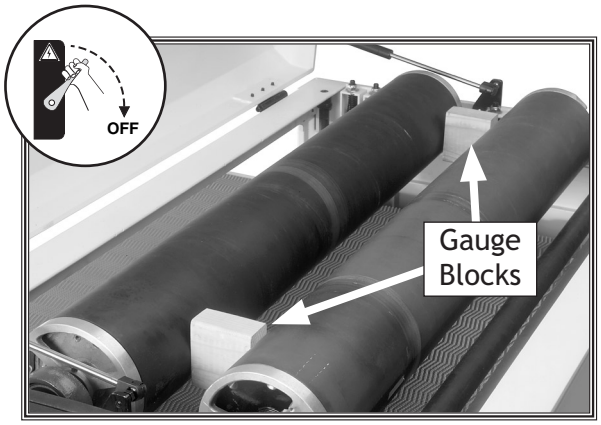


Figure 53. Example of small gauge block positioned between front and rear drums.

SERVICE

Adjusting Drum Height & Drum-to-Conveyor Parallelism

The rear drum can be adjusted parallel to the conveyor belt in fine increments at the pillow bearings with the micro-adjust knobs, or the front drum can be adjusted parallel to the conveyor with the set screws on the pillow bearings. If, after performing the following procedure, you cannot adjust the drums parallel to the conveyor belt, it is possible that the conveyor table needs further adjustment. In that case, follow instructions on **Page 43** for adjusting the table parallel to the drums at the table lift screws.

Keep in mind that having the drums parallel to the top of the conveyor belt (see **Figure 54**) is critical to the sanding operation. Take care to adjust the drums parallel to the conveyor surface within 0.002" from one side to the other.

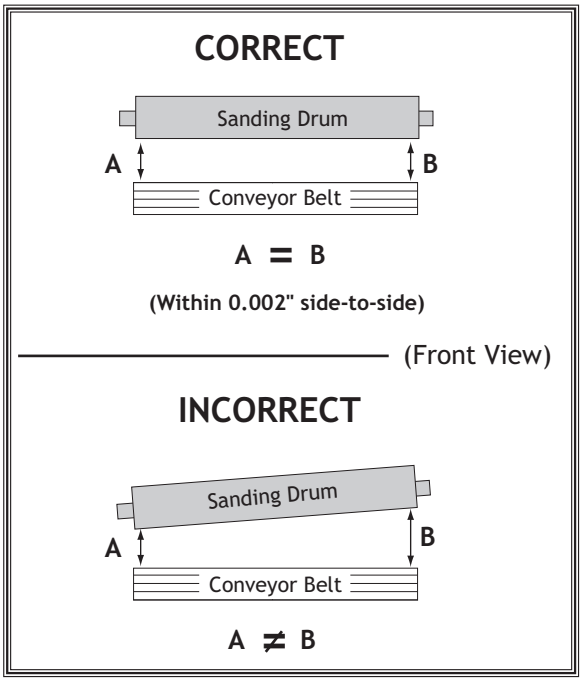


Figure 54. Drum parallel to conveyor belt.

To adjust the rear drum height and adjust the drums parallel to the conveyor belt, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Open the top and pulley covers, remove the V-belts, and remove sandpaper from the drums for best results.

3. Place the gauge blocks (refer **Page 32**) on the conveyor table and position them under the drums, as shown in **Figure 55**.

4. Raise the table up until the gauge blocks are approximately 0.010" below the rear drum, checking with a feeler gauge. This setting will be used to determine rear drum-conveyor bed parallelism. **Note:** *Each full turn of the table height handwheel raises the conveyor table approximately 0.020".*

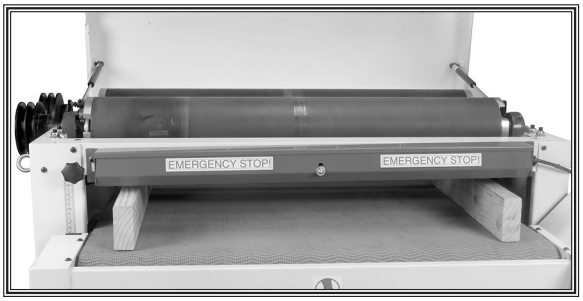


Figure 55. Gauge blocks under drum rollers.

Continued on next page

5. Loosen the lock lever or lock handle (see **Figures 56 & 57**) at one end of the rear drum.

6. Turn the micro-adjustment knob until a 0.010" feeler gauge fits between the drum and gauge board (**Figure 58**).

7. Repeat the adjustment in **Step 6** on the other side of the rear drum until the height difference between both ends is 0.002" or less.

8. Lock the micro-adjustment lock lever and lock handle.

9. Loosen the front drum pillow bearing lock nuts (**Figure 51, Page 39**).

10. Adjust the height of the front drum ends by adjusting the set screws (**Figure 51**) on the pillow bearing up or down until the largest size feeler gauge you can fit between the front drum and 36" long gauge blocks (at both ends) is 0.017"–0.025.

    Note: *The 0.017"–0.025" setting is a recommended range and includes the 0.010" setting on the rear drum and the additional 0.007" to 0.015" height from **Step 12** (**See Figure 58**). Some trial-and-error may be needed to find the optimal setting based upon the sandpaper grit size you use (ie, coarse grit = smaller number; fine grit = larger number).*

11. Tighten the front pillow bearing lock nuts.

12. Check to make sure that when you tightened the nuts the front drum did not move horizontally, and that the front drum is still parallel with the rear drum, using the small gauge blocks.

    — If the gauge blocks are snug between the front and rear drums, go to **Step 14**.

    — If the gauge blocks are not snug betwen the front and rear drums, repeat **Step 11 and 12** on **Page 39**.

13. Calibrate the scale pointer as described on **Page 43**.

14. Remove all gauge blocks, reinstall the sandpaper on the drums, reinstall the V-belts, and close the pulley and top covers.

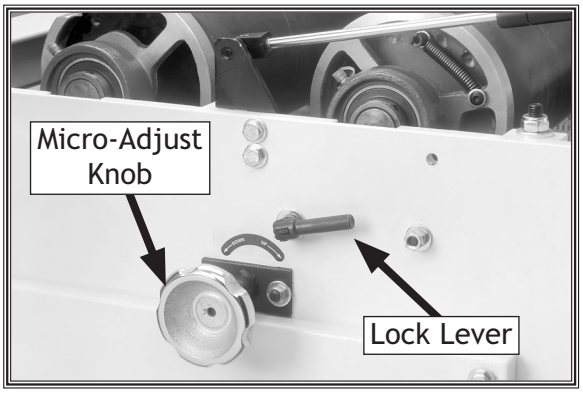


Figure 56. Rear right sanding drum micro-adjusting knob.

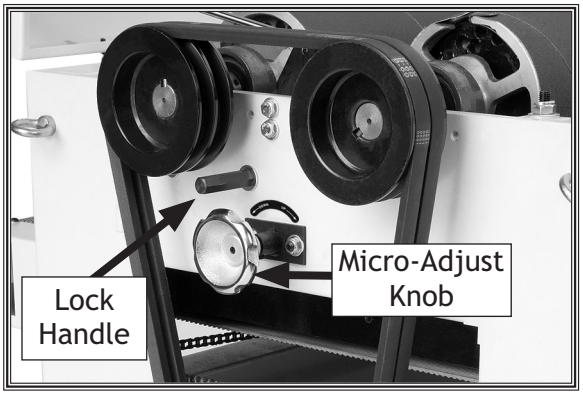


Figure 57. Rear left sanding drum micro-adjusting knob.

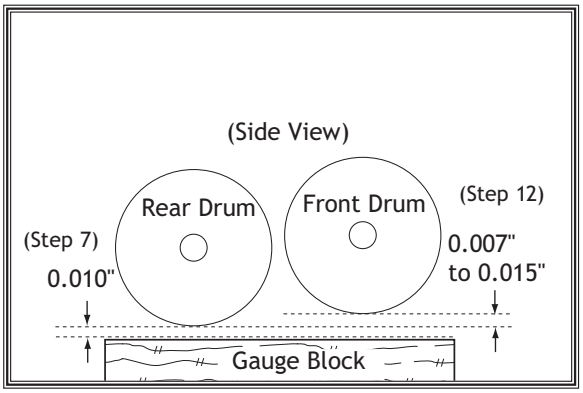


Figure 58. Rear drum set below front drum.

Pressure Roller Height

The pressure rollers are factory set at 0.039"–0.078" below the bottom of the rear sanding drum and are fully adjustable either up/down with the lock nuts shown in **Figure 59**.

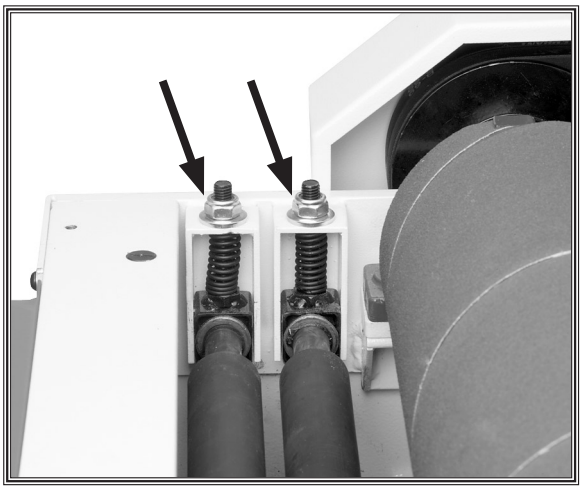


Figure 59. Pressure roller adjustment nuts.

Proper pressure on the workpiece helps avoid kickback and keeps the workpiece from slipping. However, as pressure increases on the workpiece, snipe also increases (snipe is normal with all brands of drum sanders).

If snipe becomes a problem, you can minimize it by reducing pressure (raising pressure roller height). However, you can only minimize it so much before the workpiece will slip or kick out, causing a hazard to the operator. If this happens, you have raised the pressure rollers too high for them to function as intended—the pressure rollers MUST then be lowered to prevent injury.

Note: *An additional trick for eliminating snipe is to reduce pressure on the rear rollers, but not the front rollers. Conditions will vary with wood types, so use trial-and-error to find the best results for your application.*

These instructions will restore the pressure rollers to the factory setting.

To adjust the pressure rollers to the factory setting, do these steps:

1. DISCONNECT POWER TO THE SANDER!
2. Open the top cover.
3. Place the gauge blocks on the conveyor table and position them under all the pressure rollers, as shown in **Figure 60**.
4. Adjust the conveyor table up so the gauge blocks just touch the bottom of the rear drum.
5. Rotate the handwheel eight full turns clockwise, counting from the point of actual table movement so handwheel freeplay does not affect your count.
6. With all the pressure rollers: 1) Raise one end off of the gauge block, then move it back down until it just touches the gauge block; 2) repeat with the other side; 3) tighten the lock nuts together to make sure the adjustments are locked in place.

Figure 60. Gauge blocks in position for adjusting the pressure roller height.

Scale Pointer Calibration

For the scale pointer to be accurate, it must be calibrated.

We recommend calibrating your scale pointer any time you adjust the drum heights or table lift screws.

To calibrate the scale pointer, do these steps:

1. Sand a workpiece with the drum sander and measure the thickness of the sanded workpiece.

2. Loosen the screw that secures the scale pointer and adjust it to the thickness of the workpiece.

Figure 61. Scale pointer screw.

Dust Scoops

The dust scoops and metal scoop plates are correctly positioned on the top cover at the factory, however these may loosen and move during shipping. Some trial and error will be needed to adjust the dust scoops so they do not contact the sanding drums.

To adjust a dust scoop, do these steps:

1. DISCONNECT POWER TO THE SANDER!

2. Remove the handwheel and open the pulley cover.

3. Loosen the button head cap screws and acorn nuts securing a metal scoop plate to the top cover (**Figure 62**), move the scoop up a little, tighten the cap screws and nuts, close the top cover, and rotate the V-belt to see if the drum srapes the scoop.

4. Adjust each scoop in this manner until the sanding drums do not scrape the scoops, then close the pulley cover and reinstall the handwheel.

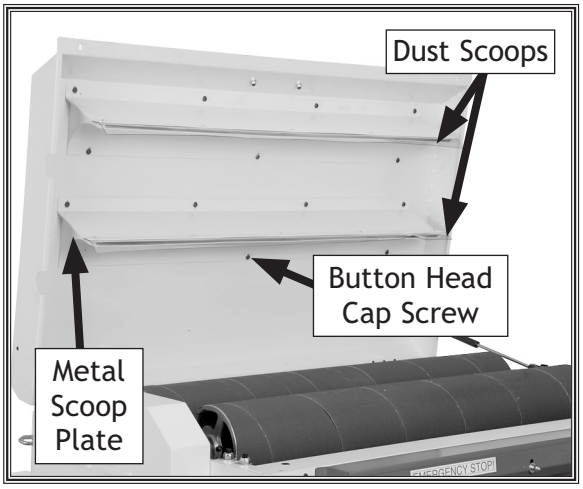


Figure 62. Location to adjust dust scoop.

Table Lift Scews

The table lift screws are connected by a chain and driven by the table elevation handwheel. When the chain is removed from a sprocket on one of the lift screws, that lift screw can adjust that portion of the table up/down independently to assist in setting the table parallel to the drums.

Adjusting the table lift screws will only be necessary if you need to adjust the drum heights more than allowed at the pillow bearing adjustments, or if you have removed the table or chain during a service procedure and you need to reset the drums parallel to the table.

Each tooth on the sprocket represents 0.006" of table elevation movement. For example, if the rear of the table was 0.006" low, rotate both rear table lift screws to the next sprocket tooth in the same chain position. You can easily rotate the sprockets from the top of the table lift screws with a flat head screwdriver.

After adjusting the table lift screws, check to make sure the drums and conveyor are parallel within 0.002" from one side to the other. If they are not within this range, then additional fine adjustments should be made at the drum pillow bearings.

To adjust the table lift screws, do these steps:

1. DISCONNECT POWER TO THE SANDER!
2. Open the side cover.
3. Raise the table up to at least the 1" mark on the height scale.
4. At the lift screw that needs to be adjusted, mark the end of a sprocket tooth and the chain hole where that tooth is meshed, as shown in **Figure 63**.
5. Using two 14mm wrenches, loosen the adjustable idler roller (**Figure 64**).
6. Carefully move the chain off of only the marked sprocket.
7. Keep track of the marked chain hole and rotate the sprocket the necessary number of teeth away from the marked one to meet the difference in height needed.
8. Fit the chain back over the sprocket, making sure the new sprocket tooth is inserted into the marked chain hole.
9. Re-tension the chain and check the new height setting.
10. Repeat **Steps 5-9** as needed until the table height is parallel to the drums in all four corners, and calibrate the scale pointer (refer to **Page 43**).
11. Follow instructions in **Drum Adjustments** (Refer to **Page 38**) for adjusting the drums parallel to the conveyor within 0.002" side-to-side.

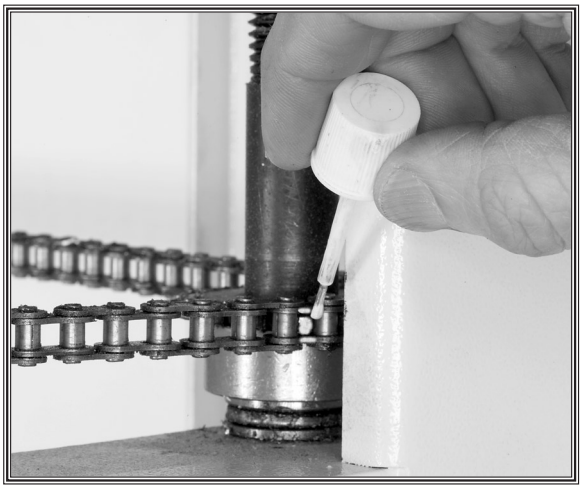


Figure 63. Marking sprocket tooth and chain.

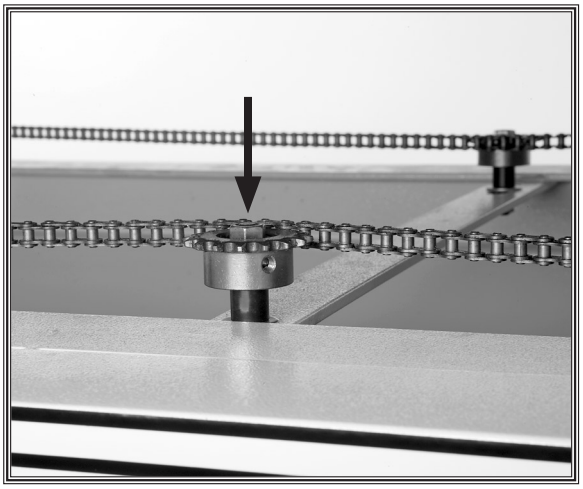


Figure 64. Adjustable idler roller sprocket.

W1772/W1773 Wiring Overview

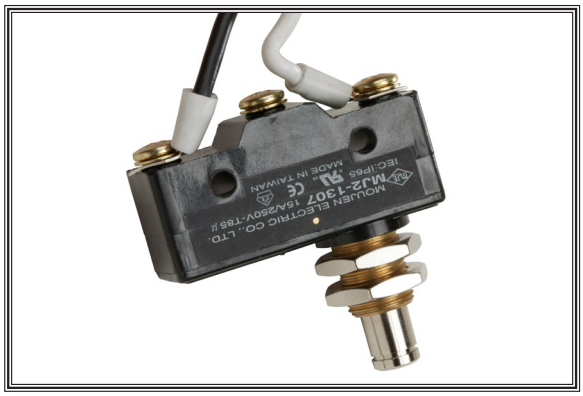


Figure 65. Emergency stop bar limit switch.

DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

COLOR KEY

BLACK	Bk
GREEN	Gn
RED	Rd
WHITE	Wt

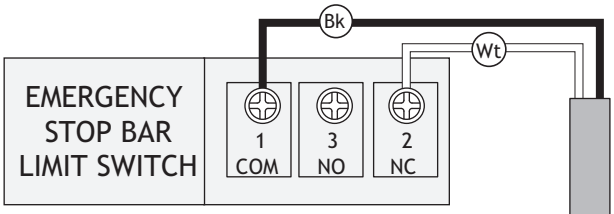


Figure 65. all models

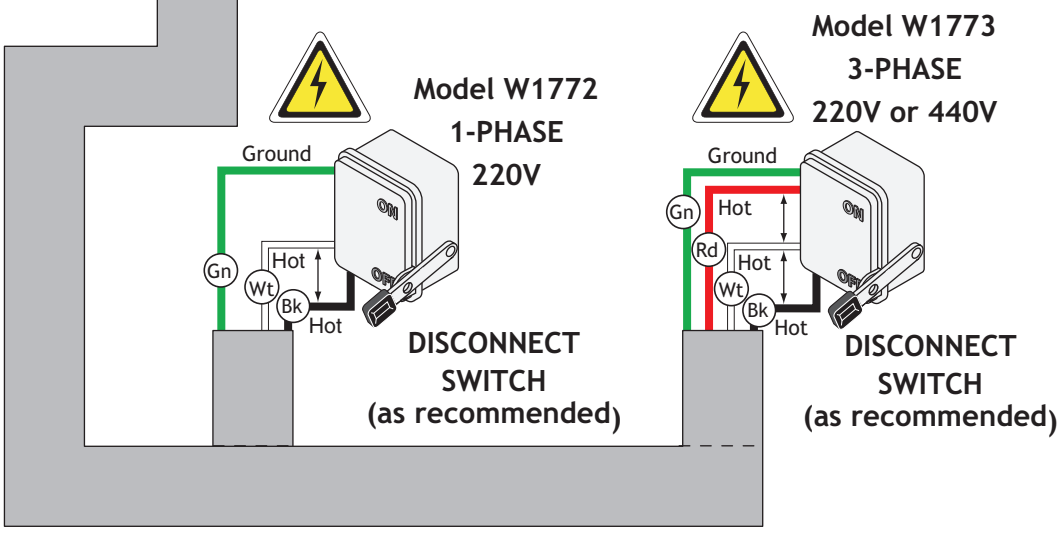
CONTROL PANEL, ALL MODELS
See **Page 46**

ELECTRICAL BOX

W1772 @ 220 1-Ph, see **Pages 47 & 48**
W1773 @ 220V 3-Ph, see **Pages 50 & 51**
@ 440V 3-Ph, see **Pages 52 & 53**

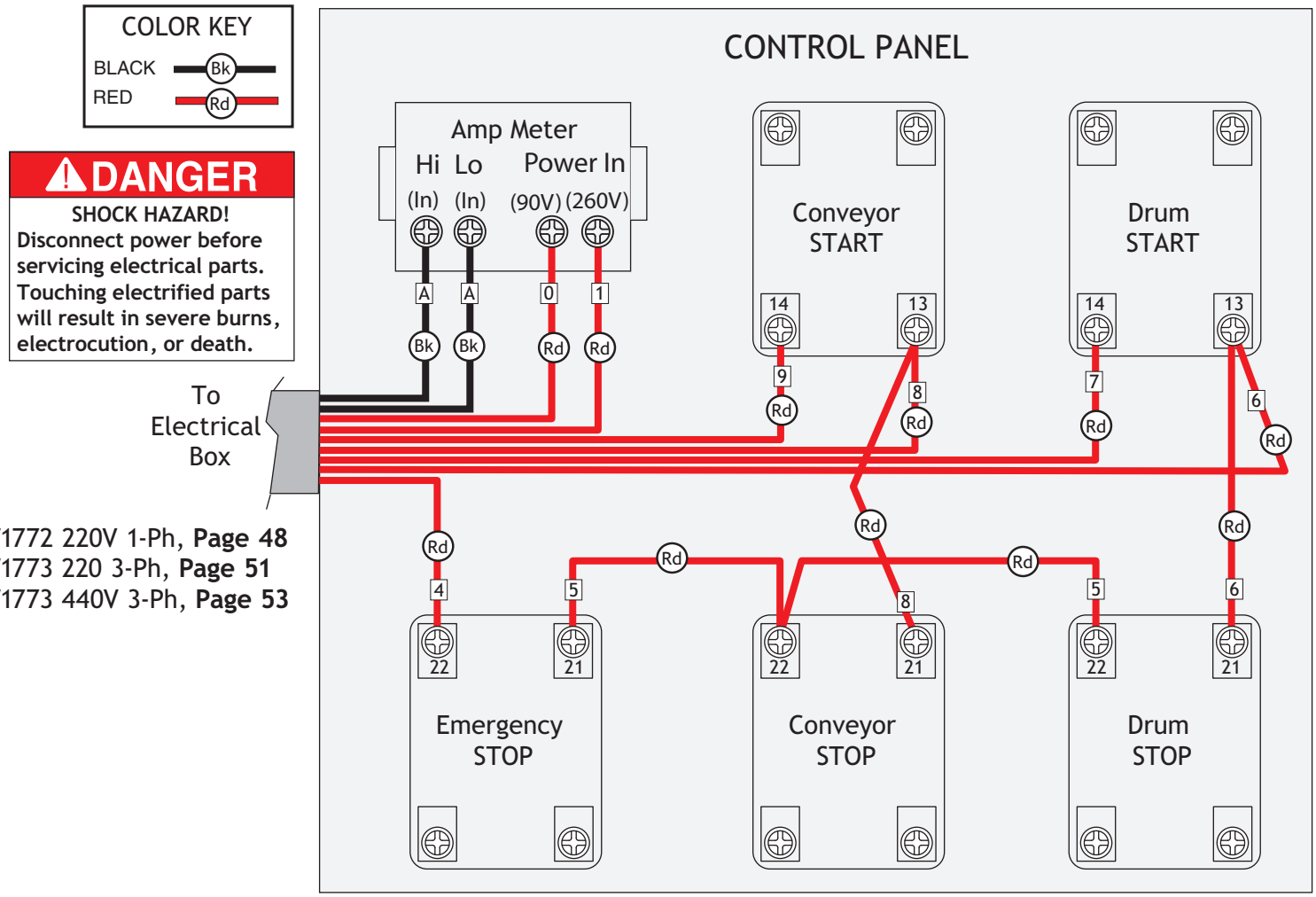
SANDING DRUM MOTOR
W1772, see **Page 49**
W1773, see **Page 54**

FEED MOTOR
W1772, see **Page 49**
W1773, see **Page 55**



SERVICE

W1772/W1773 Control Panel



W1772 220V 1-Ph, **Page 48**
W1773 220 3-Ph, **Page 51**
W1773 440V 3-Ph, **Page 53**

Figure 66. W1772/W1773 control panel wiring.

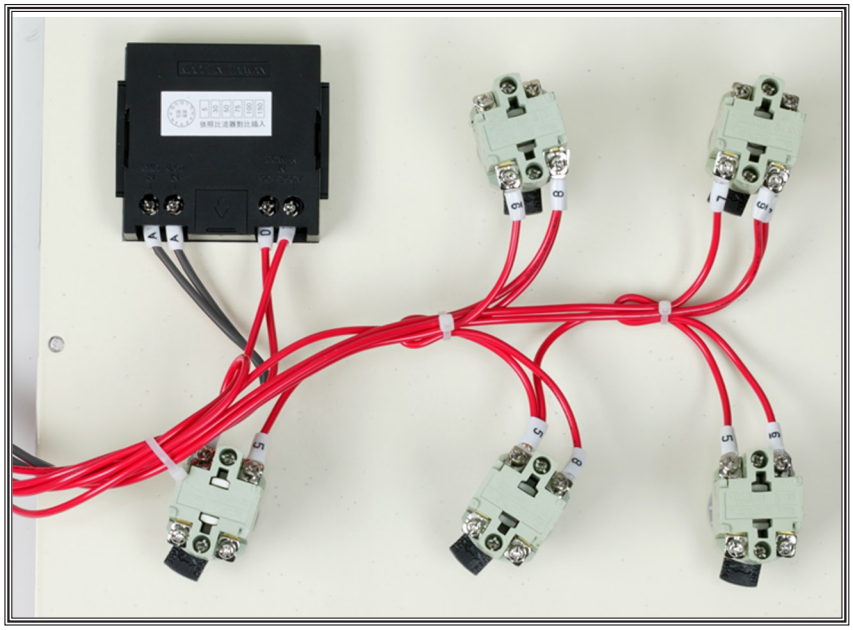


Figure 67. W1772/W1773 control panel.

SERVICE

W1772 Electrical Box 220V, 1-Ph

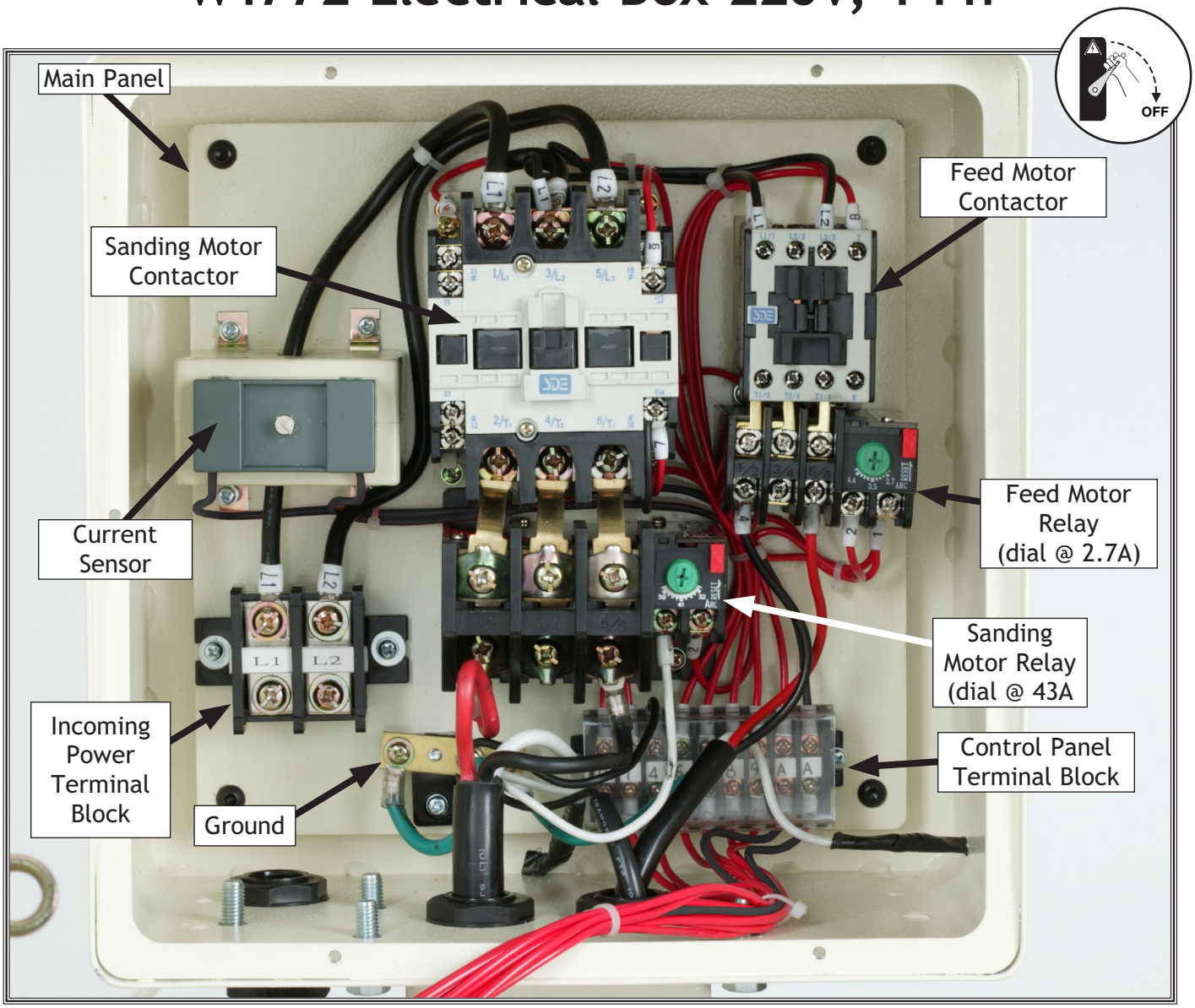
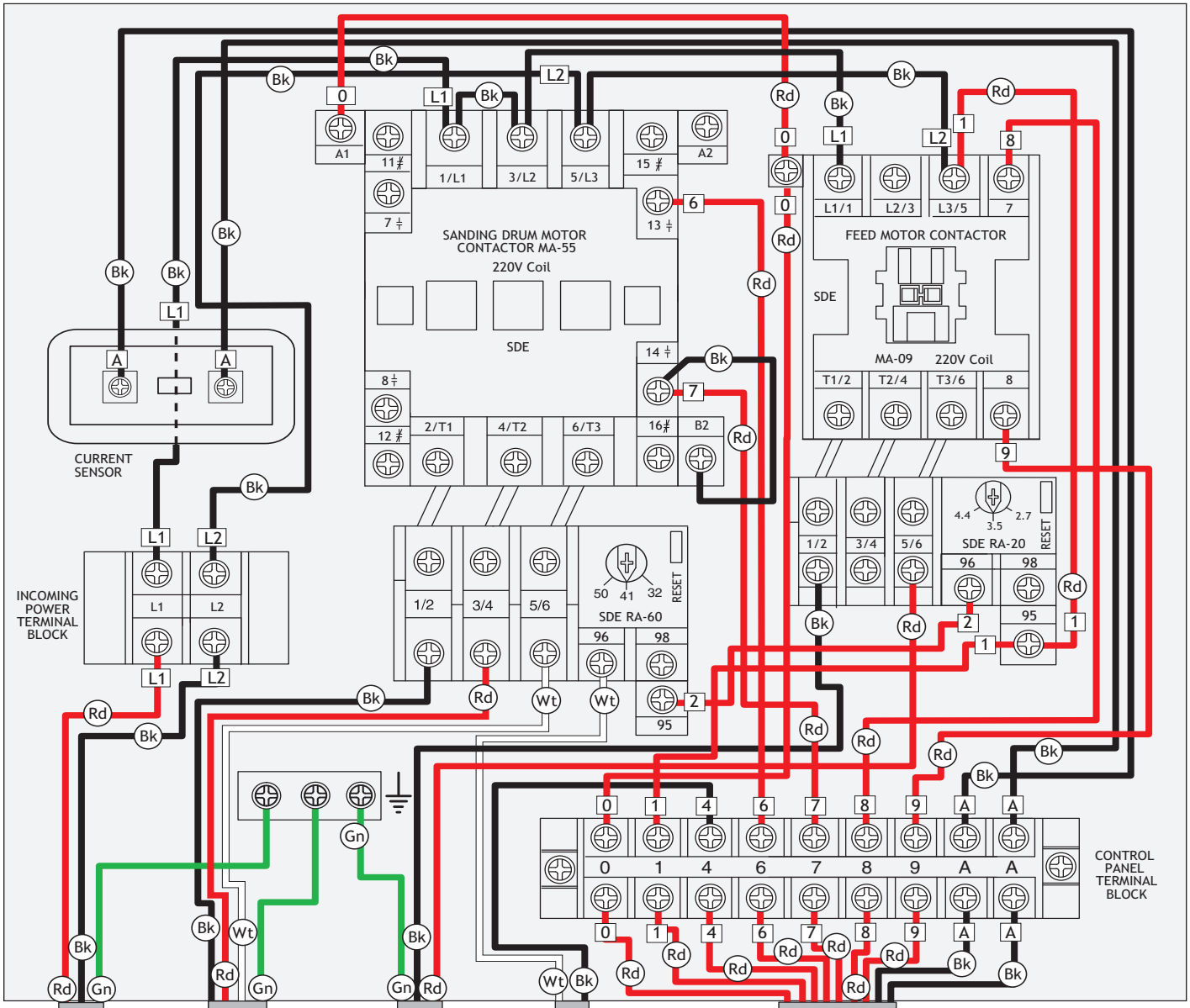


Figure 68. W1772 electrical box.

W1772 Electrical Box Wiring 220V, 1-Ph



Incoming 220V Single-Phase Power

To Sanding Drum Motor **Figures 69, 70, 73**

To Feed Motor **Figures 71, 72, 74**

To Emerg. Stop Bar Limit Switch **Figure 65**

To Control Panel **Figures 66 & 67**

COLOR KEY

BLACK	Bk
WHITE	Wt
GREEN	Gn
RED	Rd

⚠ DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

SERVICE

W1772 Sanding & Feed Motors

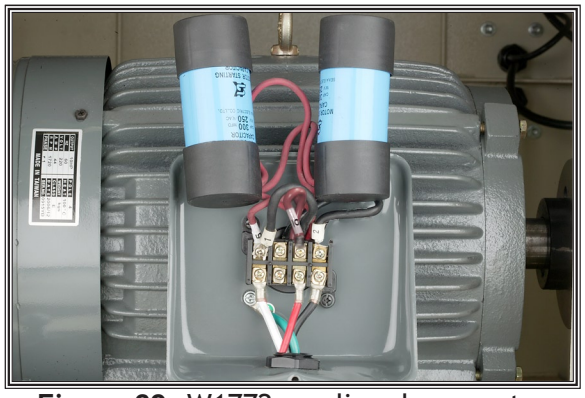


Figure 69. W1772 sanding drum motor wiring and start capacitors.

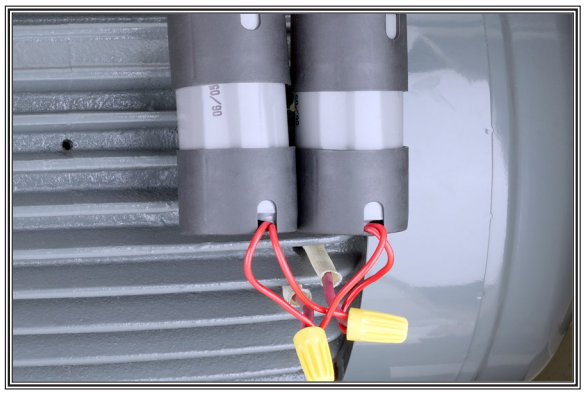


Figure 70. W1772 sanding drum motor run capacitors.

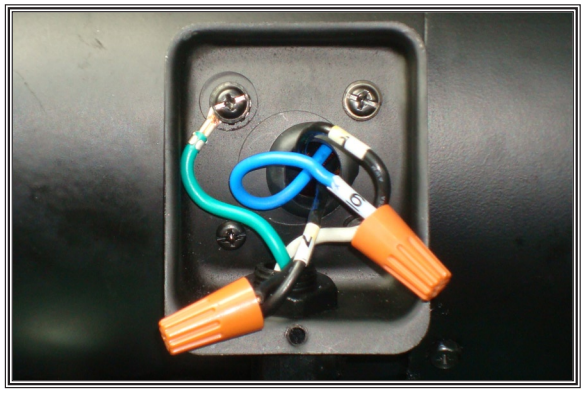


Figure 71. W1772 feed motor wiring.

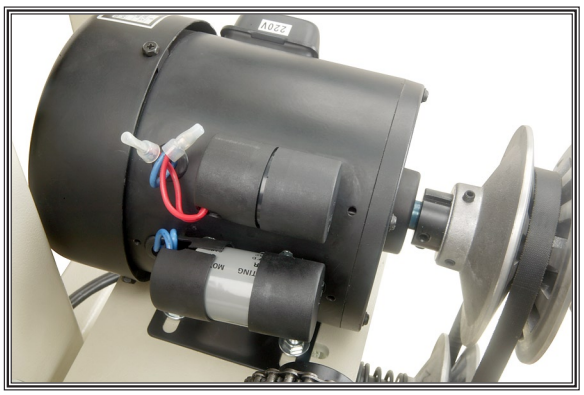


Figure 72. W1772 feed motor capacitors.

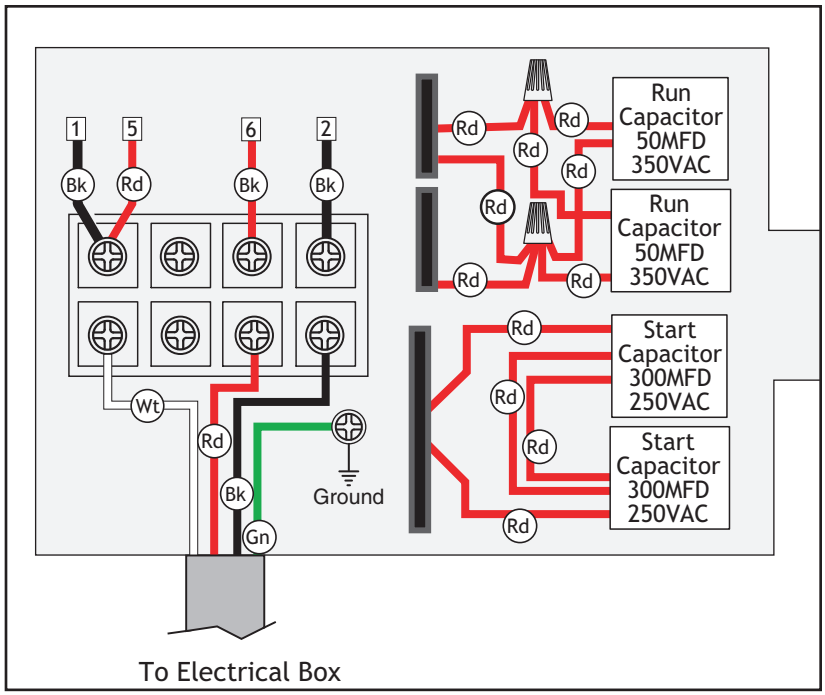


Figure 73. W1772 sanding drum motor, 200V single-phase.

DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

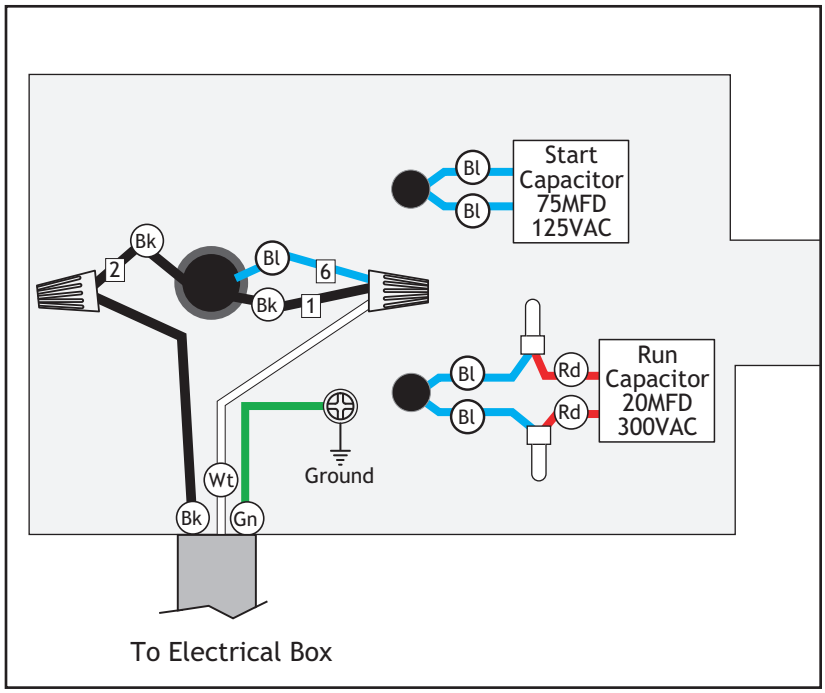


Figure 74. W1772 feed motor, 220V single-phase.

SERVICE

W1773 Electrical Box 220V, 3-Phase

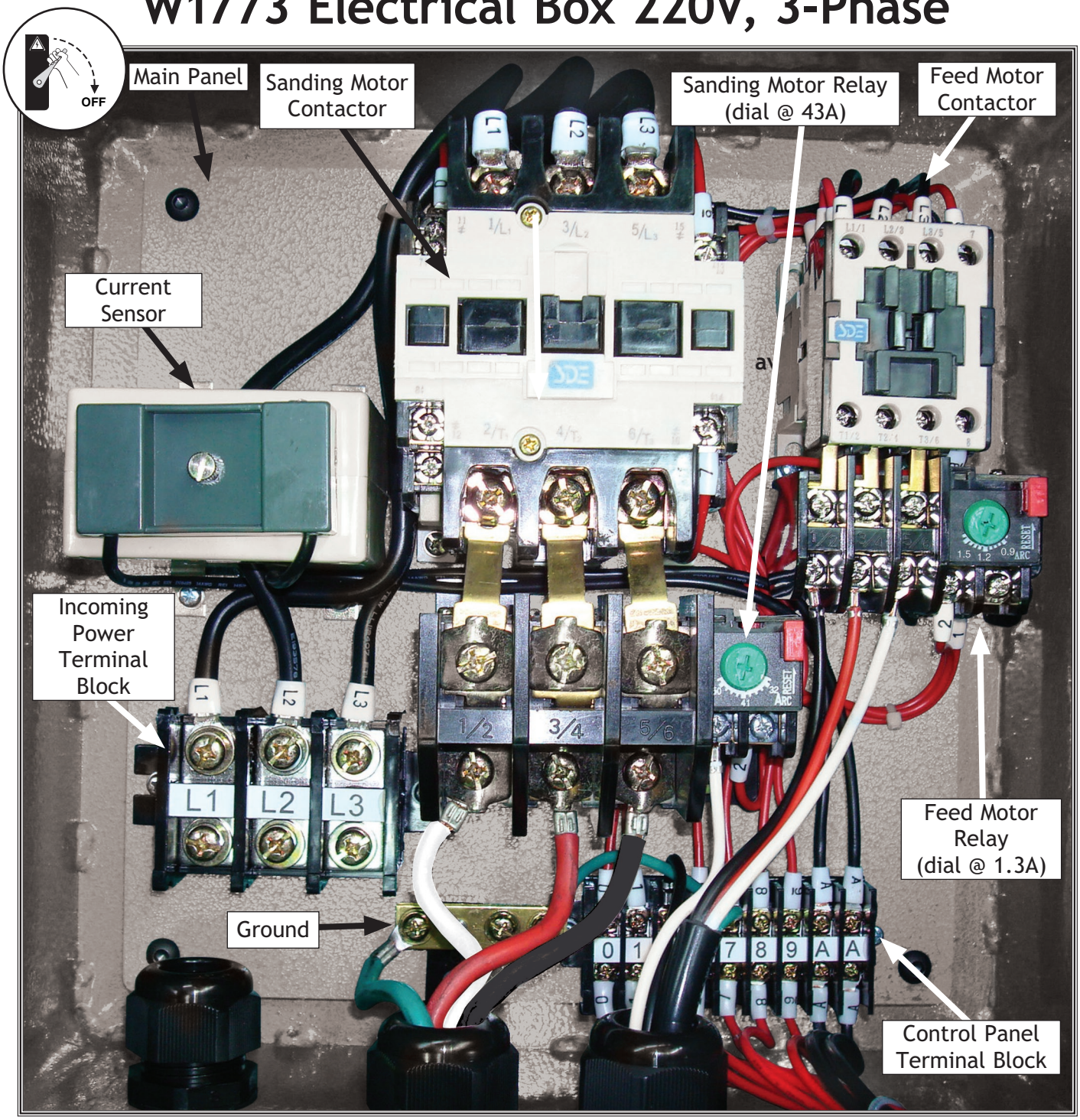
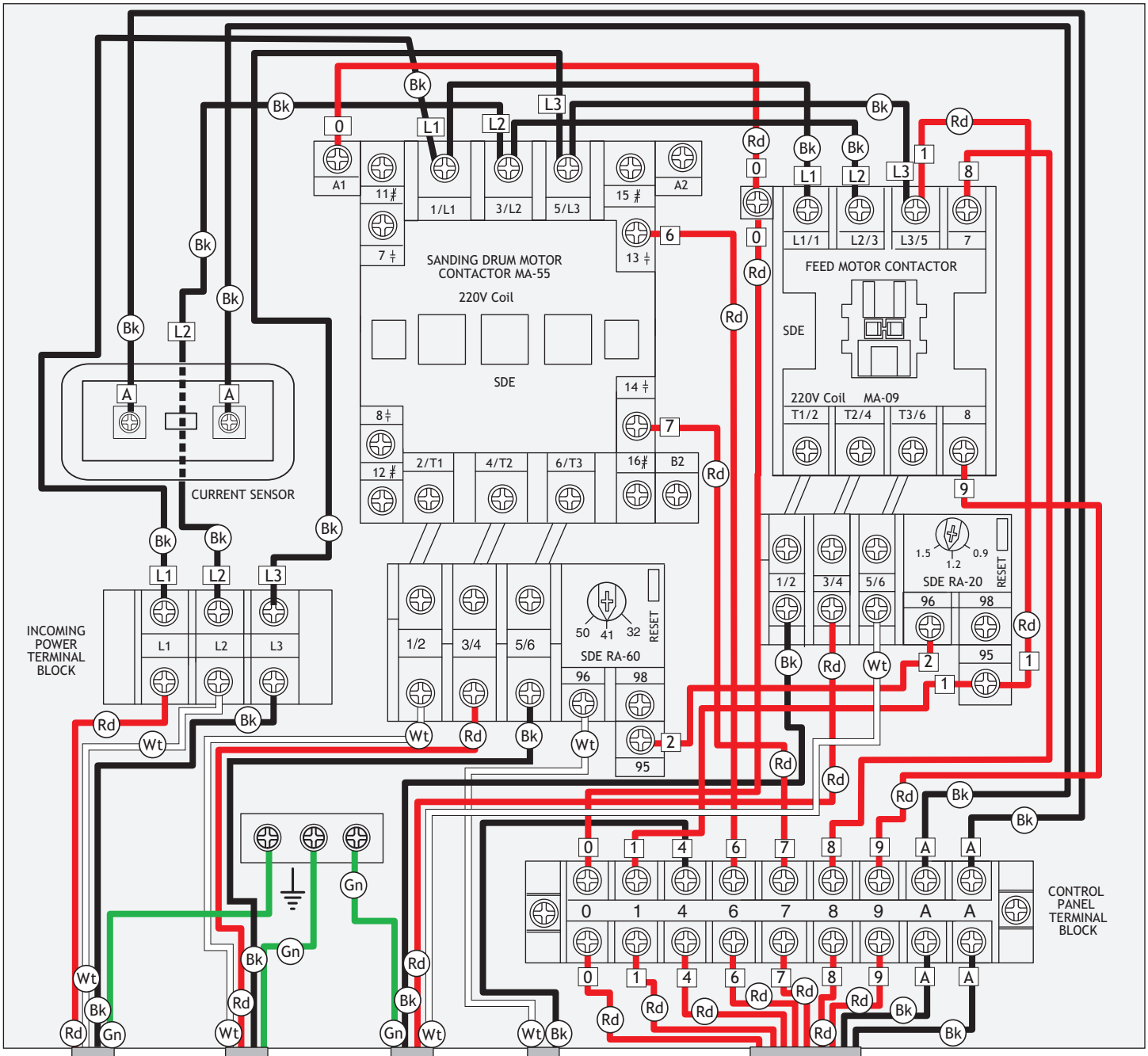


Figure 75. W1773 220V 3-phase electrical box wiring.

W1773 Electrical Box Wiring 220V, 3-Phase



Incoming 220V Three Phase Power

To Sanding Drum Motor **Figure 77**

To Feed Motor **Figure 79**

To Emerg. Stop Bar Limit Switch **Figure 65**

To Control Panel **Figures 66 & 67**

⚠ DANGER

SHOCK HAZARD! Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

SERVICE

W1773 Electrical Box 440V, 3-Phase

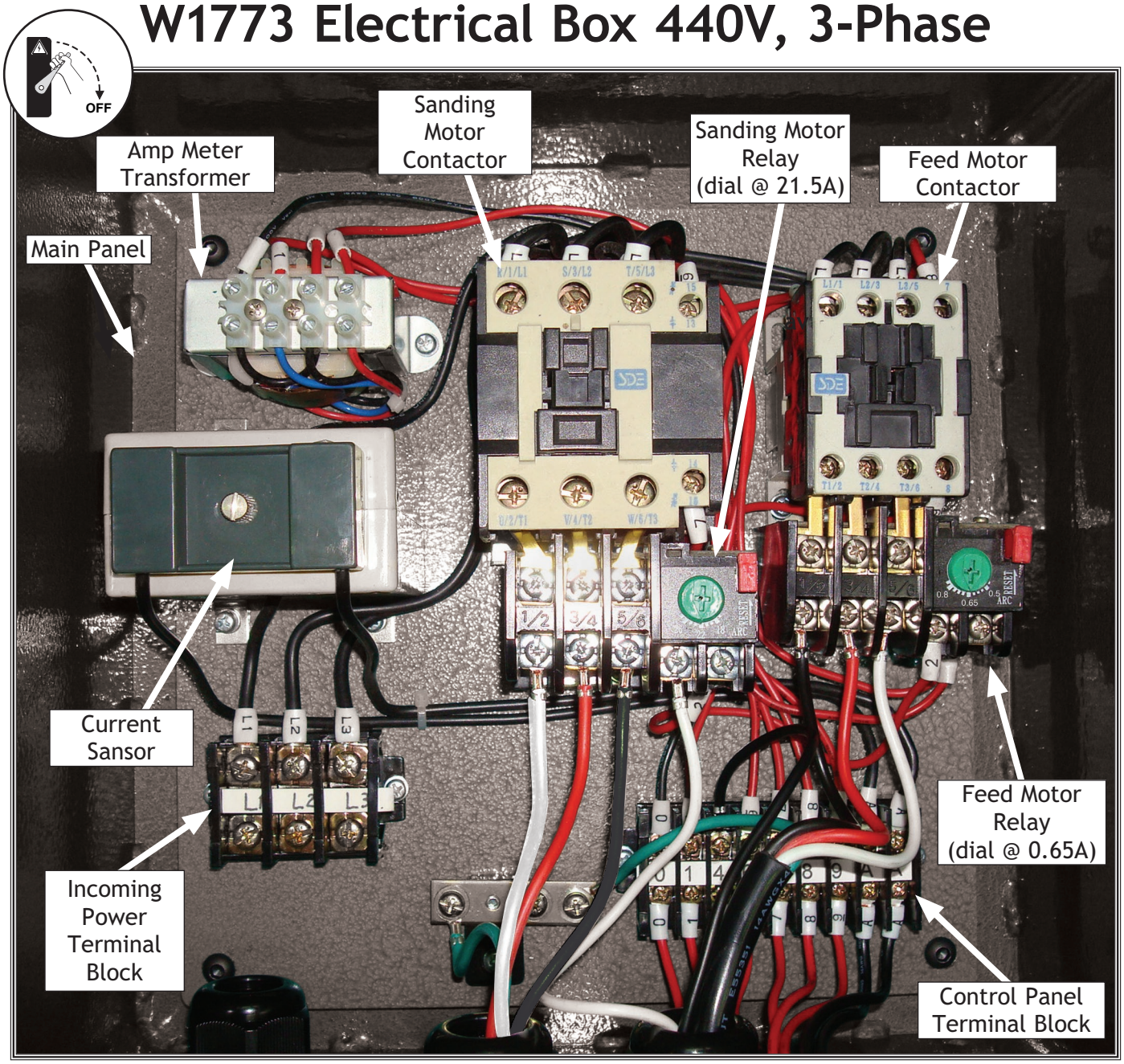
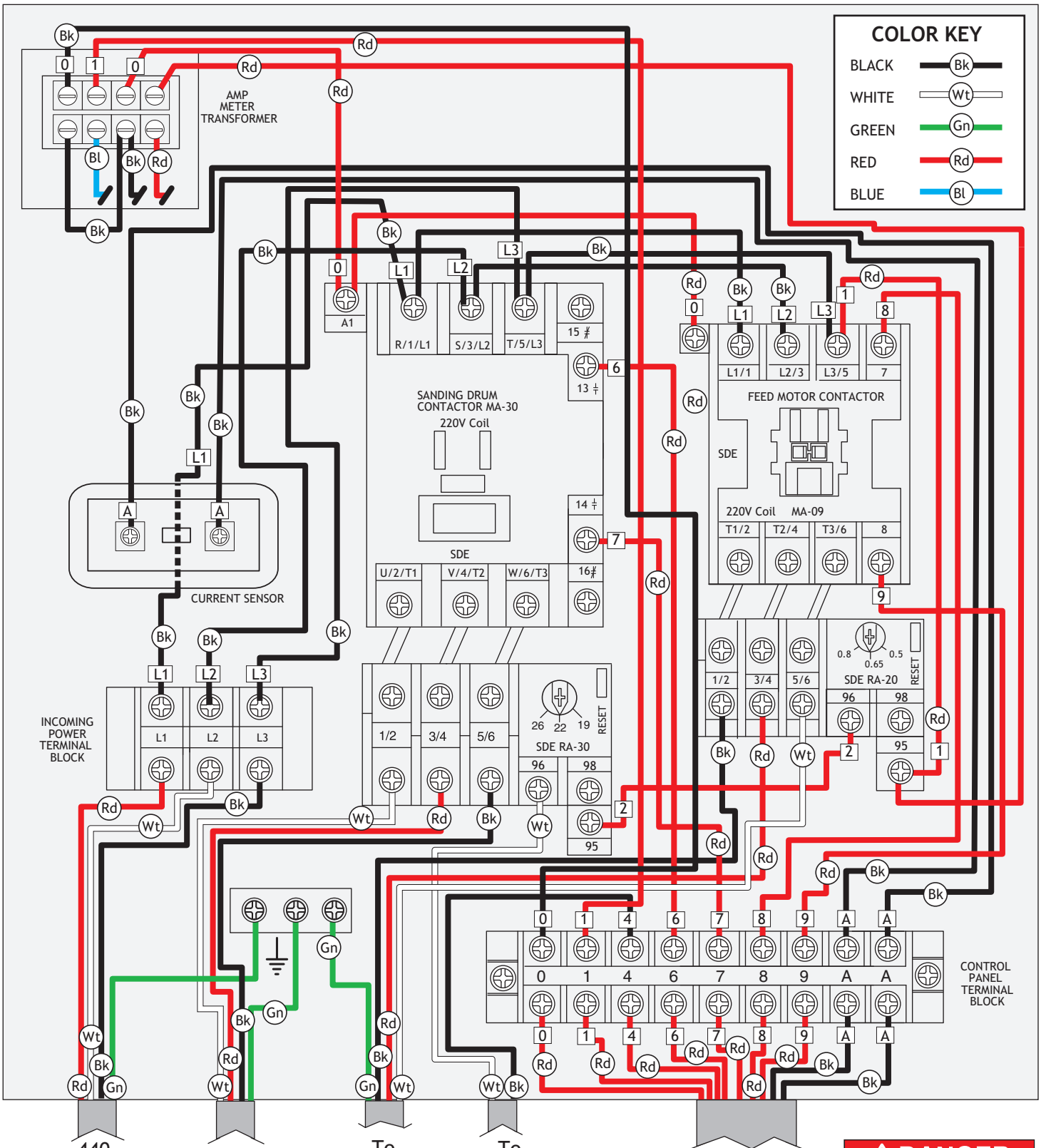


Figure 76. W1773 440V 3-phase electrical box wiring.

W1773 Electrical Box Wiring 440V, 3-Phase



DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

SERVICE

W1773 Sanding Drum Motor

Figure 77. W1773 220V sanding drum motor wiring.

Figure 78. W1773 440 sanding drum motor wiring.

DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

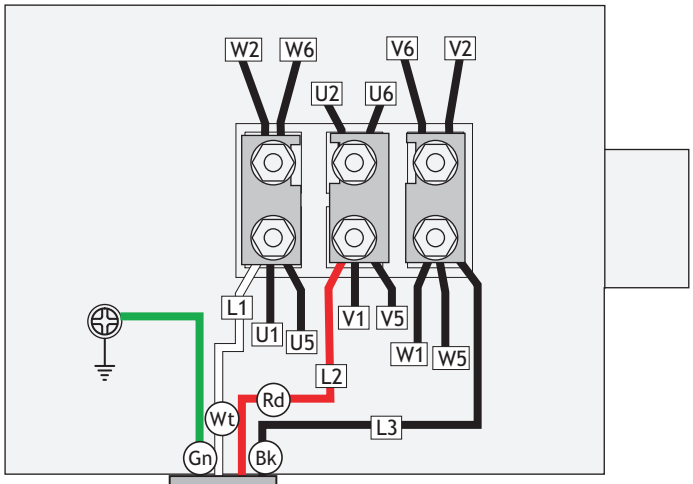
NOTICE

These motor wiring diagrams are current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!

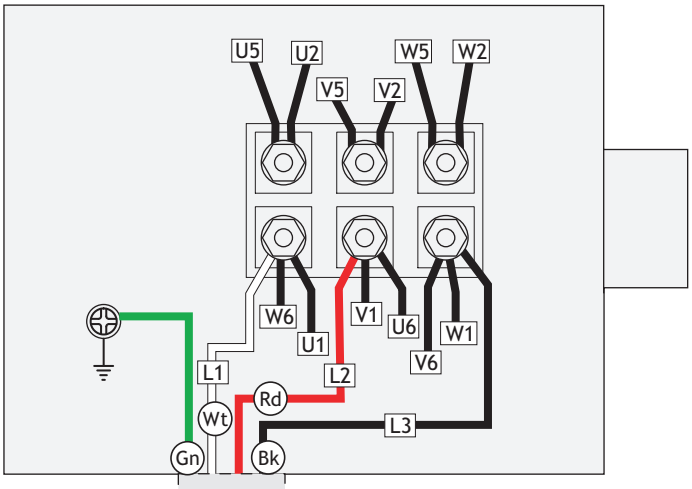
COLOR KEY

BLACK	Bk
WHITE	Wt
GREEN	Gn
RED	Rd

220V



440V



(additional conversions required for 440V operation)

To Electrical Box

W1773 220 3-Phase **Page 51** or
W1773 440V 3-Phase **Page 53**

SERVICE

W1773 Feed Motor

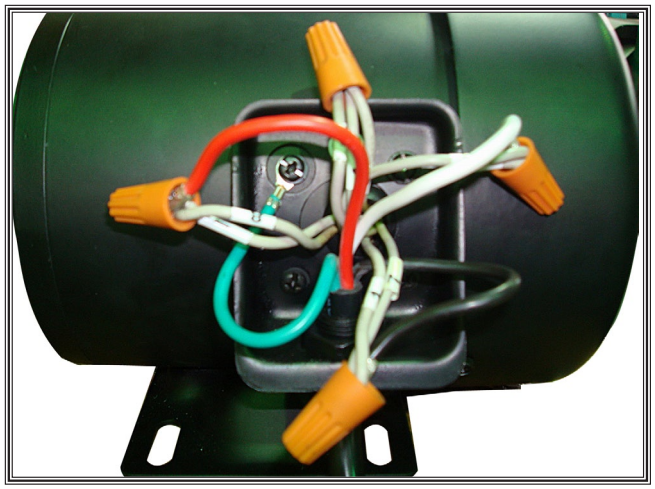


Figure 79. W1773 220V feed motor wiring.

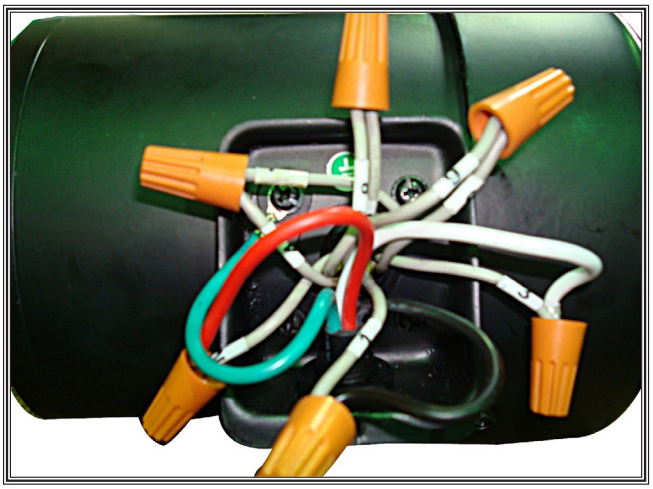


Figure 80. W1773 440 feed drum motor wiring.

DANGER

SHOCK HAZARD!
Disconnect power before servicing electrical parts. Touching electrified parts will result in severe burns, electrocution, or death.

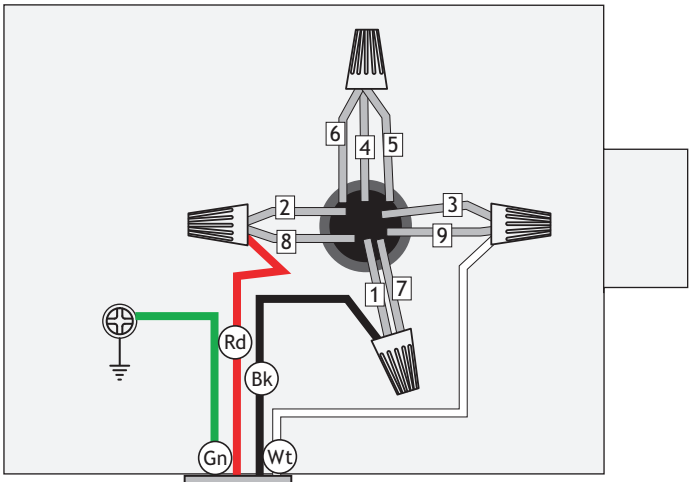
NOTICE

These motor wiring diagrams are current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!

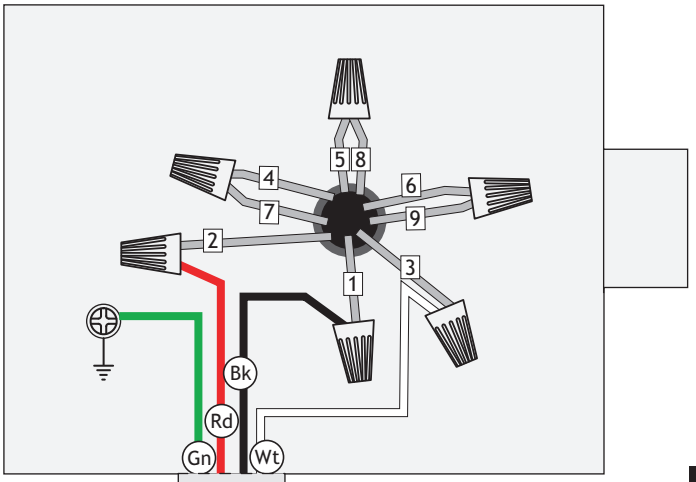
COLOR KEY

BLACK	Bk
WHITE	Wt
GREEN	Gn
RED	Rd

220V



440V



(additional conversions required for 440V operation)

To Electrical Box

W1773 220 3-Ph, **Page 51** or
W1773 440V 3-Ph, **Page 53**

Troubleshooting

This section covers the most common problems and corrections with this type of machine. **WARNING! DO NOT make any adjustments until power is disconnected and moving parts have come to a complete stop!**

Motor & Electrical

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine does not start or a breaker trips.	1. Emergency stop push-button is engaged/faulty. 2. Power supply switched ***OFF*** or is at fault. 3. Start capacitor is at fault (W1772 only). 4. Motor connection wired incorrectly. 5. Thermal overload relay has tripped. 6. Wall fuse/circuit breaker is blown/tripped. 7. Contactor not getting energized/has burnt contacts. 8. Wiring is open/has high resistance. 9. Emergency stop push-panel is stuck/switch is at fault. 10. Motor is at fault.	1. Rotate clockwise slightly until it pops out/replace it. 2. Ensure power supply is switched on; ensure power supply has the correct voltage. 3. Test/replace if faulty (W1772 only). 4. Correct motor wiring connections. 5. Unplug machine, open magnetic switch cover, turn amperage dial on Thermal Protection Circuit Breaker to a higher amperage setting. 6. Ensure circuit size is suitable for this machine; replace weak breaker. 7. Test for power on all legs and contactor operation. Replace unit if faulty. 8. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary. 9. Free push-panel from binding; replace faulty switch. 10. Test/repair/replace.
Machine stalls or is overloaded.	1. Feed rate too fast for task. 2. Workpiece material is not suitable for this machine. 3. Run capacitor is at fault (W1772 only). 4. Belt(s) slipping. 5. Motor connection is wired incorrectly. 6. Motor bearings are at fault. 7. Machine is undersized for the task. 8. Contactor not getting energized or has poor contacts. 9. Motor has overheated. 10. Motor is at fault. 11. Air circulation through the motor restricted.	1. Decrease feed rate. 2. Only cut wood products; make sure moisture content is below 20% and there are no foreign materials in the workpiece. 3. Test/repair/replace (W1772 only). 4. Replace bad belt(s) as a matched set, align pulleys, and re-tension. 5. Correct motor wiring connections. 6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 7. Use new sandpaper with appropriate grit; reduce the feed rate/depth of sanding. 8. Test for power on all legs and contactor operation. Replace if faulty. 9. Clean off motor, let cool, and reduce workload. 10. Test/repair/replace. 11. Clean off motor to provide normal air circulation.
Drums run backwards (W1773 only).	1. Two of the power wires are reversed (W1773 only).	1. Switch two of the current carrying wires at the main power block (W1773 only). (**Page 21**)

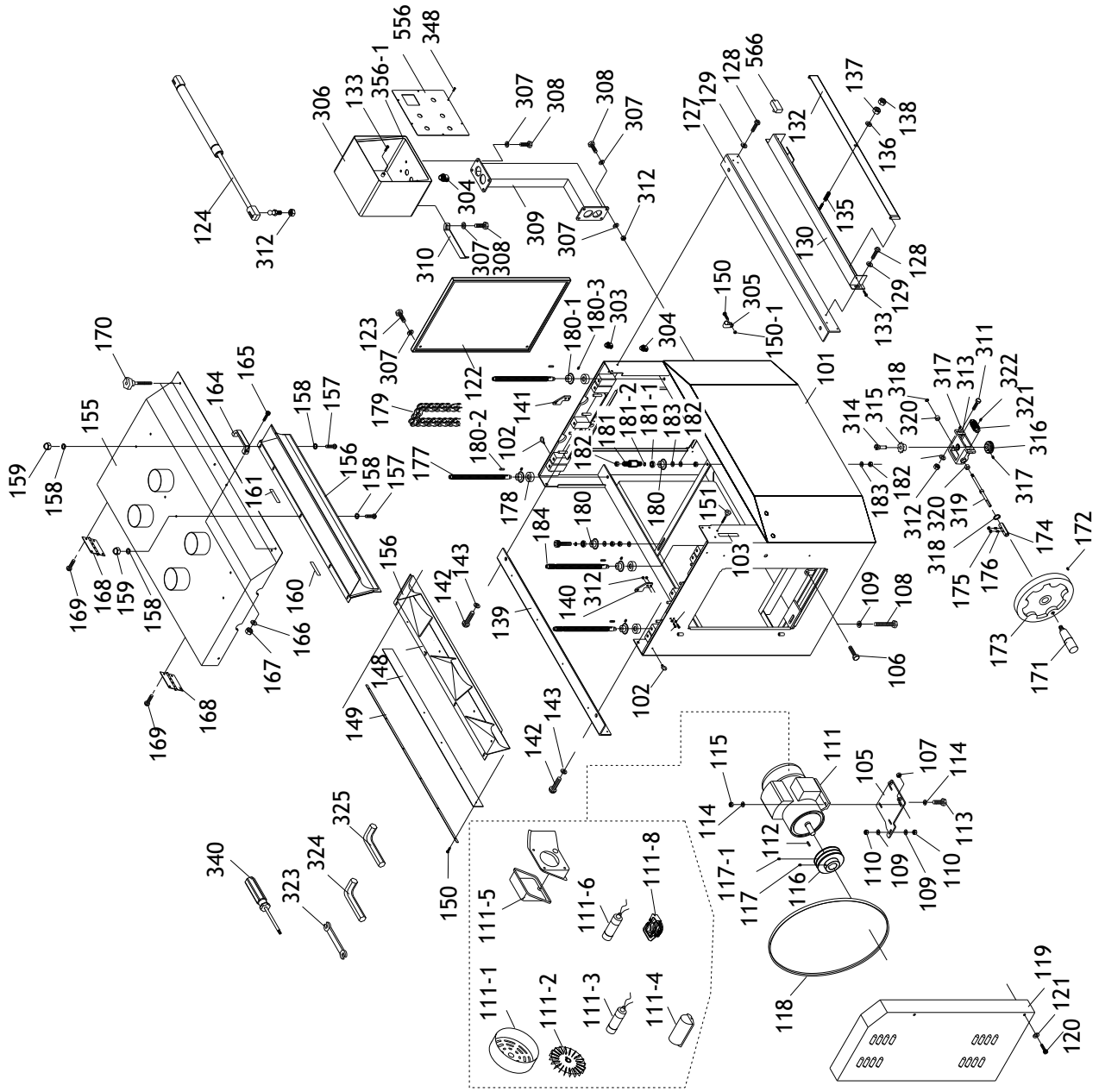
SERVICE

Machine Operations

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine slows when sanding, making squealing noise, especially on start-up.	1. V-belts loose. 2. V-belts worn out.	1. Tighten V-belts (**Page 33**). 2. Replace V-belts (**Page 33**).
Loud repetitious noise coming from machine.	1. Pulley setscrews or keys are missing or loose. 2. Motor fan is hitting the cover. 3. V-belts are defective.	1. Inspect keys and setscrews. Replace or tighten if necessary. 2. Adjust fan cover mounting position, tighten fan, or shim fan cover. 3. Replace V-belts (**Page 33**).
Vibration when sanding.	1. Loose drum pillow bearings. 2. Worn drum pillow bearings.	1. Tighten drum pillow bearings. 2. Replace drum pillow bearings.
Grinding, screeching, or rubbing noise when sanding drums are powered up.	1. Drum bearings lack sufficient grease. 2. Drum bearings worn.	1. Grease the pillow bearings (**Page 30**). 2. Replace the drum bearings.
Short V-belt lifespan.	1. Pulleys not aligned correctly. 2. Improperly tensioned.	1. Align pulleys (**Page 33**). 2. Properly tension V-belts (**Page 33**).
Machine lacks power; drums stop turning under load.	1. V-belts loose. 2. Too much pressure on pressure rollers.	1. Tighten V-belts (**Page 33**). 2. Reduce pressure roller pressure (**Page 42**).
Conveyor slips under load.	1. Conveyor is too loose. 2. Too much load.	1. Tension conveyor (**Page 36**). 2. Decrease load.
Conveyor tracks to one side; conveyor hits the roller cover.	1. Conveyor tracking is incorrect.	1. Track the conveyor so it runs straight (**Page 37**).
Workpiece pulls to one side during sanding operations.	1. One of the sanding drums is not parallel with the table.	1. Adjust the sanding drums parallel to the table (**Page 38**).
Excessive snipe.	1. Too much pressure roller pressure. 2. Too much pressure from rear pressure rollers. 3. Lack of outfeed support.	1. Reduce pressure roller pressure (**Page 42**). 2. Reduce rear pressure roller pressure (**Page 42**). 3. Set up outfeed table or have someone catch the workpiece as it comes out.
Workpiece kicks out.	1. Not sufficient pressure roller pressure.	1. Increase pressure roller pressure (**Page 42**).
Sanding drums make scraping noises..	1. Drums scrape dust scoop	1. Adjust dust scoops so they do not touch sanding drums (**Page 43**).
Sandpaper tears off drums during operation.	1. Nail/staple in workpiece. 2. Sandpaper not fastened correctly. 3. Drums not perpendicular to the feed direction.	1. Sand only clean workpieces. 2. Install the sandpaper correctly (**Page 28**). 3. Adjust the drums perpendicular to the feed direction (**Page 38**).
Table elevation controls are stiff and hard to adjust.	1. Table lock is engaged. 2. Table lift screws dirty or loaded with sawdust. 3. Chain idler roller sprocket lock nuts have been tightened against roller. 4. Elevation handle worm gear is dirty or loaded with sawdust.	1. Disengage table lock. 2. Clean and regrease table lift screws (**Page 43**). 3. Adjust the lock nuts on the idler roller sprocket so the roller can spin freely. 4. Remove the worm gear box, clean it, and regrease it.
Poor dust collection.	1. Dust collection lines incorrectly sized for this machine. 2. Dust collector underpowered or too far away from this machine.	1. Use at least an 8" main line with two 6" branch lines that each Y into 4" at the machine. 2. Upgrade your dust collector or decrease the distance from the dust collector to the machine.

PARTS

Frame Parts Breakdown



REF	PART #	DESCRIPTION
101	X1772101	MAIN FRAME
102	X1772102	LIFT RING
103	X1772103	SCALE
105	X1772105	MOTOR BASE
106	XPB75M	HEX BOLT M12-1.75 X 35
107	XPN09M	HEX NUT M12-1.75
108	XPB143M	HEX BOLT M12-1.75 X 120
109	XPW01	FLAT WASHER 1/2

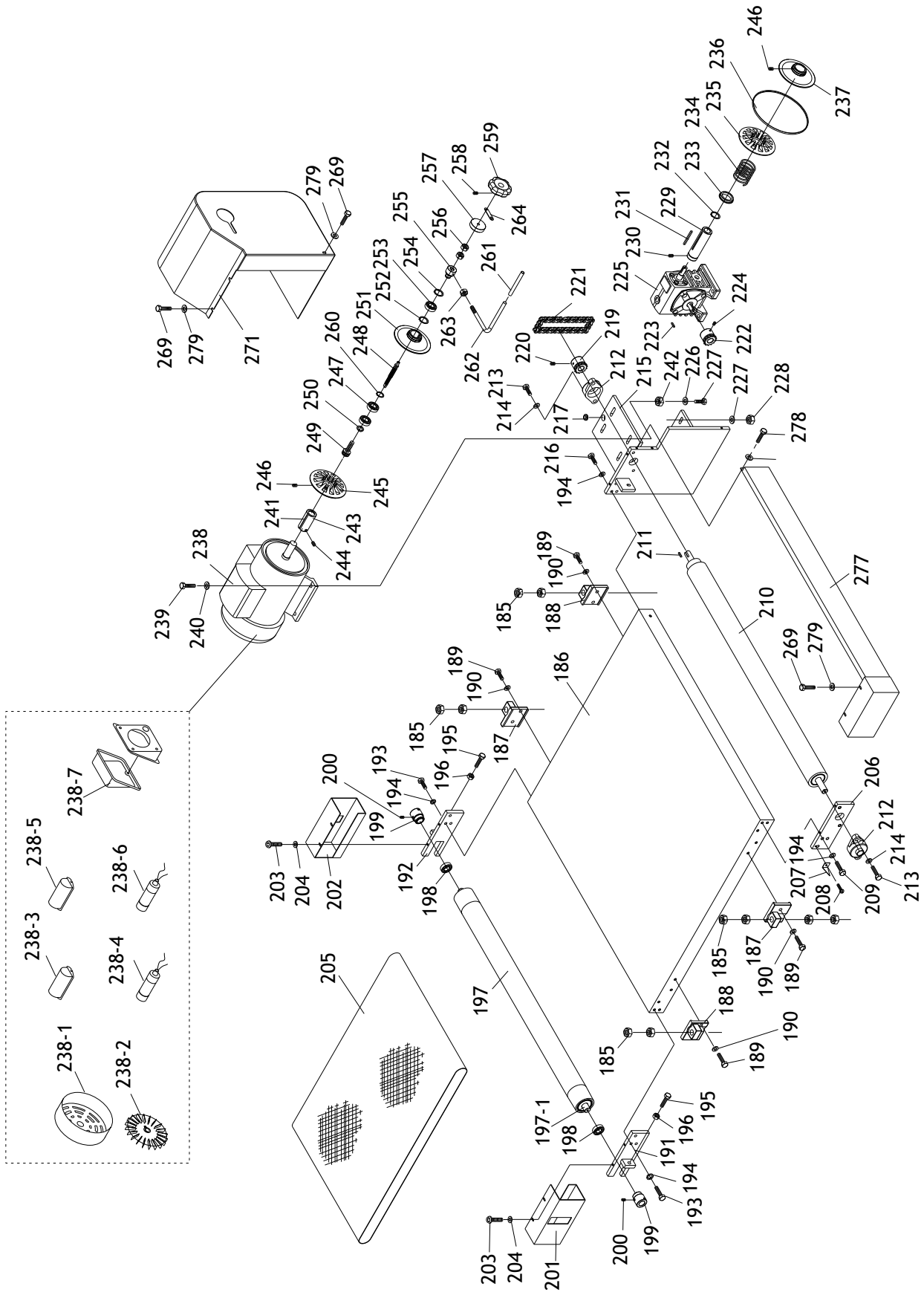
REF	PART #	DESCRIPTION
110	XPN09M	HEX NUT M12-1.75
111	X1772111	SANDING DRUM MOTOR 10HP 1PH (W1772)
111	X1773111	SANDING DRUM MOTOR 15HP 3PH (W1773)
111-1	X1772111-1	MOTOR COVER (W1772)
111-1	X1773111-1	MOTOR COVER (W1773)
111-2	X1772111-2	MOTOR FAN (W1772)
111-2	X1773111-2	MOTOR FAN (W1773)
111-3	X1772111-3	R. CAP. 50M 350V 45 X 85 (W1772)

Frame Parts List

REF	PART #	DESCRIPTION
111-4	X1772111-4	CAPACITOR COVER (W1772)
111-5	X1772111-5	JUNCTION BOX (W1772)
111-5	X1773111-5	JUNCTION BOX (W1773)
111-6	X1772111-6	S. CAP 300M 250V 45 X 97 (W1772)
111-8	X1772111-8	CENTRIFUGAL SWITCH (W1772)
112	XPK109M	KEY 7 X 7 X 35
113	XPB116M	HEX BOLT M10-1.5 X 45
114	XPW04M	FLAT WASHER 10MM
115	XPN02M	HEX NUT M10-1.5
116	X1772116	MAIN MOTOR PULLEY
117	XPSS16M	SET SCREW M8-1.25 X 10
117-1	XPSS09M	SET SCREW M8-1.25 X 20
118	XPVB69	V-BELT B-69 5L690
119	X1772119	BELT COVER
120	XPSB168M	CAP SCREW M6-1 X 90
121	XPW06	FLAT WASHER 1/4
122	X1772122	SIDE PANEL
123	XPB26M	HEX BOLT M8-1.25 X 30
124	X1772124	GAS STRUT
127	X1772127	FRONT UPPER FRAME ANGLE
128	XPSBS09M	BUTTON HD CAP SCR M6-1 X 12
129	XPW06	FLAT WASHER 1/4
130	X1772130	MOUNTING BRACKET
132	X1772132	SHUT-OFF BAR
133	XPSBS09M	BUTTON HD CAP SCR M6-1 X 12
135	X1772135	COMPRESSION SPRING
136	XPW06	FLAT WASHER 1/4
137	XPN01M	HEX NUT M6-1
138	XPN01M	HEX NUT M6-1
139	X1772139	REAR UPPER FRAME ANGLE
140	X1772140	LEFT SUPPORT PLATE
141	X1772141	RIGHT SUPPORT PLATE
142	XPSB26M	CAP SCREW M6-1 X 12
143	XPW06	FLAT WASHER 1/4
148	X1772148	METAL PLATE
149	X1772149	PLATE
150	XPS01	PHLP HD SCR 10-24 X 1/2
150-1	XPN07	HEX NUT 10-24
151	X1772151	KNOB M8-1.25 X 55
155	X1772155	TOP COVER
156	X1772156	DUST SCOOP
157	XPSB132M	BUTTON HD CAP SCR M6-1 X 15
158	XPW06	FLAT WASHER 1/4
159	XPN35M	ACORN NUT M6-1
160	X1772160	ADHESIVE FOAM STRIP
161	X1772161	ADHESIVE FOAM STRIP
164	X1772164	HANDLE
165	XPSB07	CAP SCREW 5/16-18 X 3/4
166	XPW07	FLAT WASHER 5/16
167	XPN02	HEX NUT 5/16-18

REF	PART #	DESCRIPTION
168	X1772168	HINGE
169	XPSBS09M	BUTTON HD CAP SCR M6-1 X 12
170	X1772170	KNOB M6-1 X 12
171	X1772171	WHEEL HANDLE
172	XPSS09	SET SCREW 3/8-16 X 1/2
173	X1772173	HANDWHEEL
174	X1772174	HANDWHEEL SLEEVE
175	XPSS01M	SET SCREW M6-1 X 10
176	XPN01M	HEX NUT M6-1
177	X1772177	LIFT SCREW
178	XP51103	THRUST BEARING 51103
179	X1772179	CHAIN 3/8 PITCH
180	X1772180	SPROCKET
180-1	X1772180-1	SPROCKET
180-2	XPK34M	KEY 5 X 5 X 20
180-3	XPSS11	SET SCREW 1/4-20 X 1/4
181	X1772181	SHAFT
181-1	X1772181-1	BEARING 6000-2RS
181-2	XPR45M	INT RETAINING RING 10MM
182	XPN02M	HEX NUT M10-1.5
183	XPW02	FLAT WASHER 3/8
184	X1772184	DRIVING LIFT SCREW
303	X1772303	STRAIN RELIEF
304	X1772304	STRAIN RELIEF
305	X1772305	CABLE CLAMP
306	X1772306	SWITCH BOX
307	XPW07	FLAT WASHER 5/16
308	XPB07M	HEX BOLT M8-1.25 X 25
309	X1772309	SUPPORT
310	X1772310	SUPPORT STRAP
311	XPB26M	HEX BOLT M8-1.25 X 30
312	XPN03M	HEX NUT M8-1.25
313	X1772313	GEAR BOX
314	X1772314	SPROCKET SHAFT
315	X1772315	SPROCKET
316	X1772316	GEAR
317	XPSS01M	SET SCREW M6-1 X 10
318	X1772318	SPECIAL WASHER
319	X1772319	CONNECTING SHAFT
320	X1772320	BUSHING
321	X1772321	WORM GEAR
322	XPSS02M	SET SCREW M6-1 X 6
323	X1772323	OPEN END WRENCH
324	XPAW04M	HEX WRENCH 4MM
325	XPAW05M	HEX WRENCH 5MM
340	X1772340	PHILLIPS SCREWDRIVER
356-1	X1772356-1	CONTROL PANEL ASSEMBLY BOX
348	XPS38M	PHLP HD SCR M4-.7 X 10
556	X1772556	CONTROL PANEL PLATE
566	X1772566	EMERGENCY STOP BAR LIMIT SWITCH

Conveyor Parts Breakdown

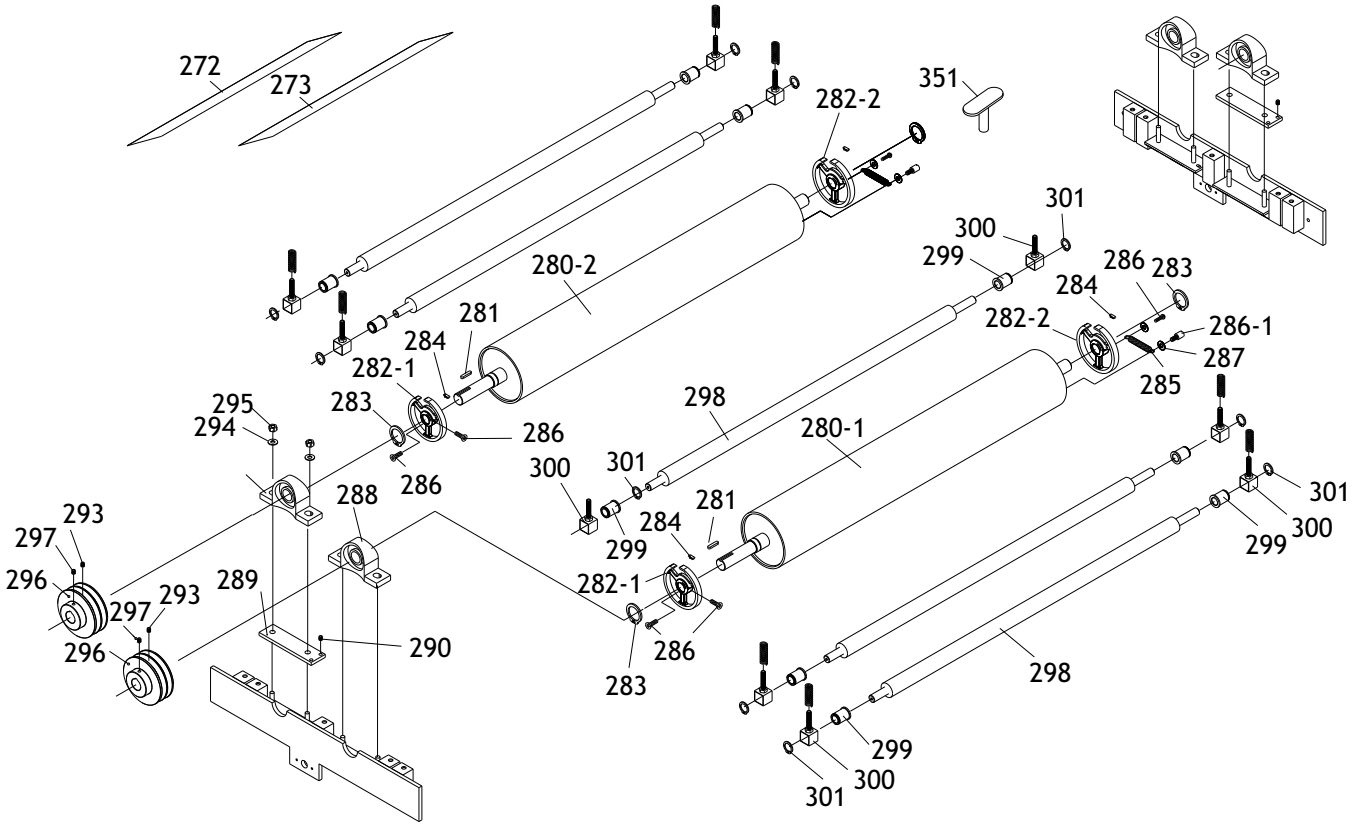


Conveyor Parts List

REF	PART #	DESCRIPTION
185	XPN28M	HEX NUT M20-2.5
186	X1772186	TABLE
187	X1772187	TABLE SUPPORT
188	X1772188	TABLE SUPPORT
189	XPB26M	HEX BOLT M8-1.25 X 30
190	XPLW01	LOCK WASHER 5/16
191	X1772191	ROLLER SUPPORT BRACKET
192	X1772192	ROLLER SUPPORT BRACKET
193	XPB26M	HEX BOLT M8-1.25 X 30
194	XPLW01	LOCK WASHER 5/16
195	XPB141M	HEX BOLT M12-1.75 X 80
196	XPN09M	HEX NUT M12-1.75
197	X1772197	PRESSURE ROLLER
197-1	X1772197-1	PRESSURE ROLLER SHAFT
198	X1772198	BEARING 6204-2RS
199	X1772199	BRACKET
200	XPSS01M	SET SCREW M6-1 X 10
201	X1772201	ROLLER COVER
202	X1772202	ROLLER COVER
203	XPSBS09M	BUTTON HD CAP SCR M6-1 X 12
204	XPW06	FLAT WASHER 1/4
205	X1772205	CONVEYOR BELT
206	X1772206	ROLLER SUPPORT BRACKET
207	X1772207	POINTER
208	XPS09M	PHLP HD SCR M5-.8 X 10
209	XPB26M	HEX BOLT M8-1.25 X 30
210	X1772210	ROLLER
211	XPK34M	KEY 5 X 5 X 20
212	X1772212	BEARING UCFL204
213	XPB32M	HEX BOLT M10-1.5 X 25
214	XPW02	FLAT WASHER 3/8
215	X1772215	ROLLER SUPPORT BRACKET
216	XPB26M	HEX BOLT M8-1.25 X 30
217	X1772217	GROMMET
219	X1772219	SPROCKET
220	XPSS16M	SET SCREW M8-1.25 X 10
221	X1772221	CHAIN 3/8
222	X1772222	SPROCKET
223	XPK15M	KEY 5 X 5 X 35
224	XPSS16M	SET SCREW M8-1.25 X 10
225	X1772225	GEAR BOX
226	XPW07	FLAT WASHER 5/16
227	XPB126M	HEX BOLT M8-1.25 X 40
228	XPN03M	HEX NUT M8-1.25
229	X1772229	SHAFT
230	XPSS16M	SET SCREW M8-1.25 X 10
231	XPK17M	KEY 5 X 5 X 80
232	XPR37M	EXT RETAINING RING 32MM

REF	PART #	DESCRIPTION
233	X1772233	COLLAR
234	X1772234	COMPRESSION SPRING
235	X1772235	PULLEY
236	X1772236	V-BELT AX-25
237	X1772237	PULLEY
238	X1772238	FEED MOTOR 1/3HP 220V 1PH (W1772)
238	X1773238	FEED MOTOR 1/3HP 220/440V 3PH (W1773)
238-1	X1772238-1	MOTOR FAN COVER (W1772)
238-1	X1773338-1	MOTOR FAN COVER (W1773)
238-2	X1772238-2	MOTOR FAN (W1772)
238-2	X1773238-2	MOTOR FAN (W1773)
238-3	X1772238-3	CAPACITOR COVER
238-4	X1772238-4	S. CAP 75M 125V 35X 58
238-5	X1772238-5	CAPACITOR COVER
238-6	X1772238-6	R. CAP 20M 300V 34X 51
238-7	X1772238-7	FEED MOTOR JUNCTION BOX (W1772)
238-7	X1773238-7	FEED MOTOR JUNCTION BOX (W1773)
239	XPB07M	HEX BOLT M8-1.25 X 25
240	XPW07	FLAT WASHER 5/16
241	XPK112M	KEY 5 X 5 X 55
242	XPN03M	HEX NUT M8-1.25
243	X1772243	SHAFT
244	XPSS16M	SET SCREW M8-1.25 X 10
245	X1772245	PULLEY
246	XPSS01M	SET SCREW M6-1 X 10
247	X1772247	SPECIAL PULLEY BEARING
248	X1772248	SHAFT
249	XPB02M	HEX BOLT M6-1 X 12
250	XPLW03M	LOCK WASHER 6MM
251	X1772251	PULLEY
252	XPR18M	EXT RETAINING RING 17MM
253	X1772253	BEARING 6003ZZ
254	XPR12M	EXT RETAINING RING 35MM
255	X1772255	SPECIAL NUT
256	XPN02M	HEX NUT M10-1.5
257	X1772257	KNURLED COLLAR
258	XPSS01M	SET SCREW M6-1 X 10
259	X1772259	HANDWHEEL
260	XPR45M	INT RETAINING RING 10MM
261	X1772261	SLEEVE
262	X1772262	BAR
263	XPLN03M	LOCK NUT M6-1
264	X1772264	BAR
269	XPSBS09M	BUTTON HD CAP SCR M6-1 X 12
271	X1772271	COVER
277	X1772277	INFEED GUARD
278	XPB02M	HEX BOLT M6-1 X 12
279	XPW06	FLAT WASHER 1/4

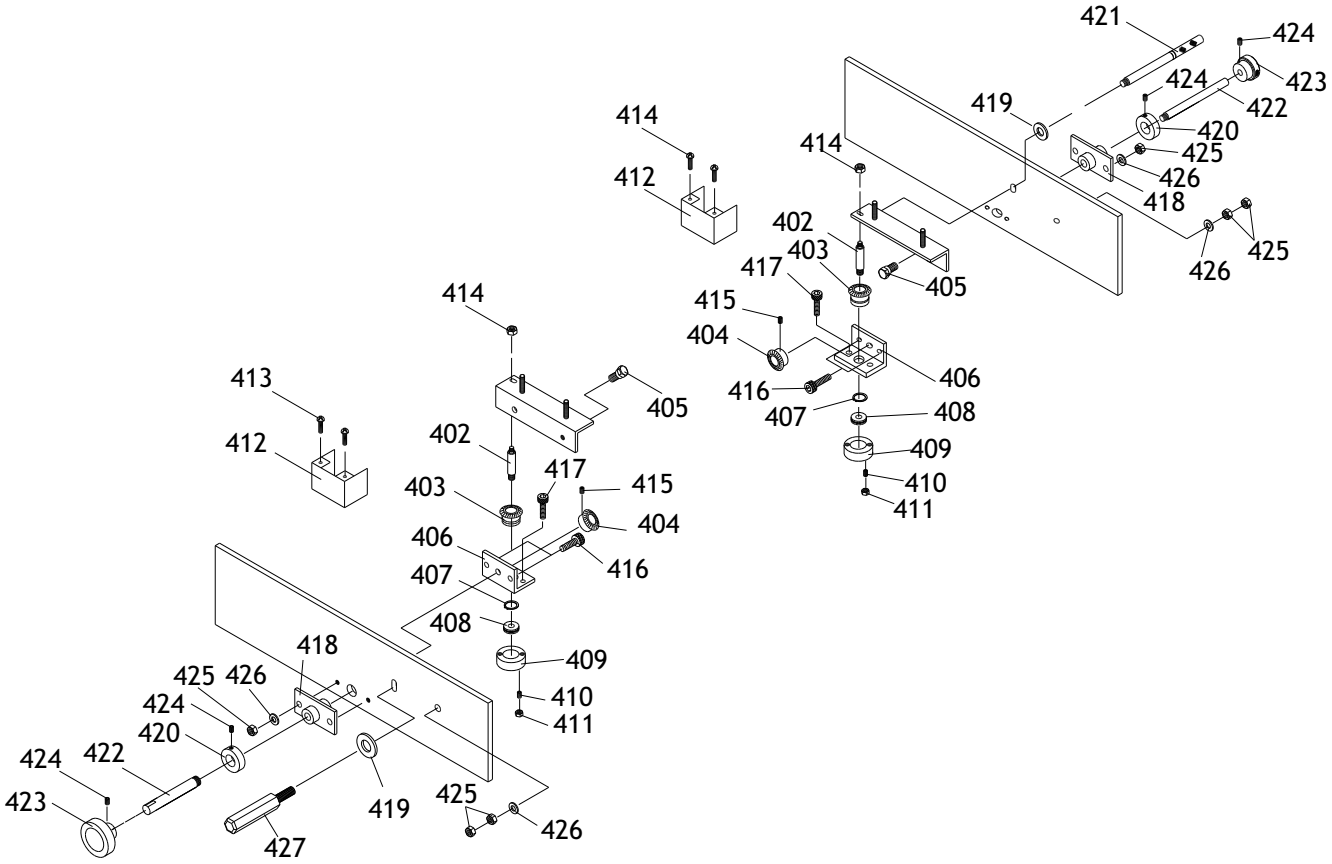
Roller & Drum Parts Breakdown



REF	PART #	DESCRIPTION
272	X1772272	SANDING PAPER ROLLS #60
273	X1772273	SANDING PAPER ROLLS #100
280-1	X1772280-1	SANDING DRUM
280-2	X1772280-2	SANDING DRUM
281	XPK55M	KEY 7 X 7 X 40
282-1	X1772282-1	LEFT PAPER TENSIONING WHEEL
282-2	X1772282-2	RIGHT PAPER TENSIONING WHEEL
283	XPR84M	EXT RETAINING RING 34MM
284	X1772284	SANDING PAPER HOLDING CLIP
285	X1772285	EXTENSION SPRING
286	XPSBS11M	BUTTON HD CAP SCR M6-1 X 10
286-1	X1772286-1	SPECIAL SCREW
287	XPW06	FLAT WASHER 1/4

REF	PART #	DESCRIPTION
288	X1772288	PILLOW BEARING UCP206
289	X1772289	ADJUSTMENT PLATE
290	XPSS51	SET SCREW 5/16-24 X 1/2
293	XPSS09M	SET SCREW M8-1.25 X 20
294	XPW02	FLAT WASHER 3/8
295	XPLN05M	LOCK NUT M10-1.5
296	X1772296	SANDING DRUM PULLEY
297	XPSS80M	SET SCREW M8-1.25 X 15
298	X1772298	HOLD DOWN ROLLER
299	X1772299	HOLD DOWN ROLLER BUSHING
300	X1772300	ROLLER BUSHING SUPPORT
301	XPR08M	EXT RETAINING RING 19MM
351	X1772351	SPRING TENSION TOOL

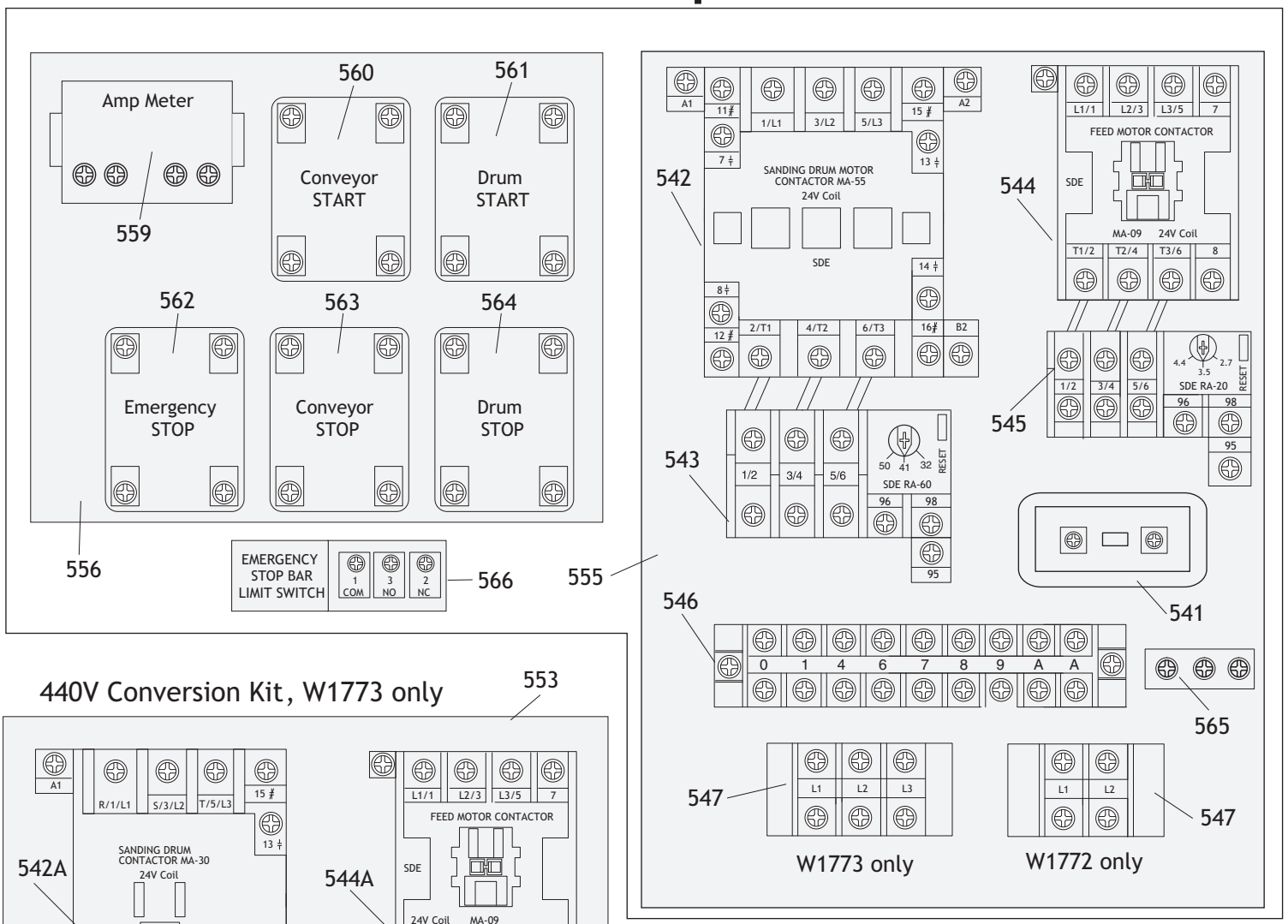
Micro-Adjustment Breakdown



REF	PART #	DESCRIPTION
402	X1772402	MICRO ADJUST SCREW
403	X1772403	BEVEL GEAR A
404	X1772404	BEVEL GEAR B
405	X1772405	SPECIAL BOLT
406	X1772406	MOUNTING BRACKET
407	XPR09M	EXT RETAINING RING 20MM
408	XP51101	THRUST BEARING 51101
409	X1772409	THRUST BEARING SEAT
410	XPSS34	SET SCREW 10-24 X 1/2
411	XPN07	HEX NUT 10-24
412	X1772412	DUST COVER
413	XPHTEK6	TAP SCREW #10 X 3/8
414	XPLN02	LOCK NUT 1/4-20

REF	PART #	DESCRIPTION
415	XPSS29	SET SCREW 10-24 X 1/4
416	XPSB11	CAP SCREW 5/16-18 X 1-1/4
417	XPSB01	CAP SCREW 1/4-20 X 5/8
418	X1772418	DRIVE SHAFT BRACKET
419	XPW07	FLAT WASHER 5/16
420	X1772420	LOCK COLLAR
421	X1772421	LOCK HANDLE
422	X1772422	DRIVE SHAFT
423	X1772423	CONTROL KNOB
424	XPSS04	SET SCREW 1/4-20 X 5/16
425	XPN02	HEX NUT 5/16-18
426	XPW07	FLAT WASHER 5/16
427	X1772427	LOCK HANDLE

Electrical Components



Electrical Parts List

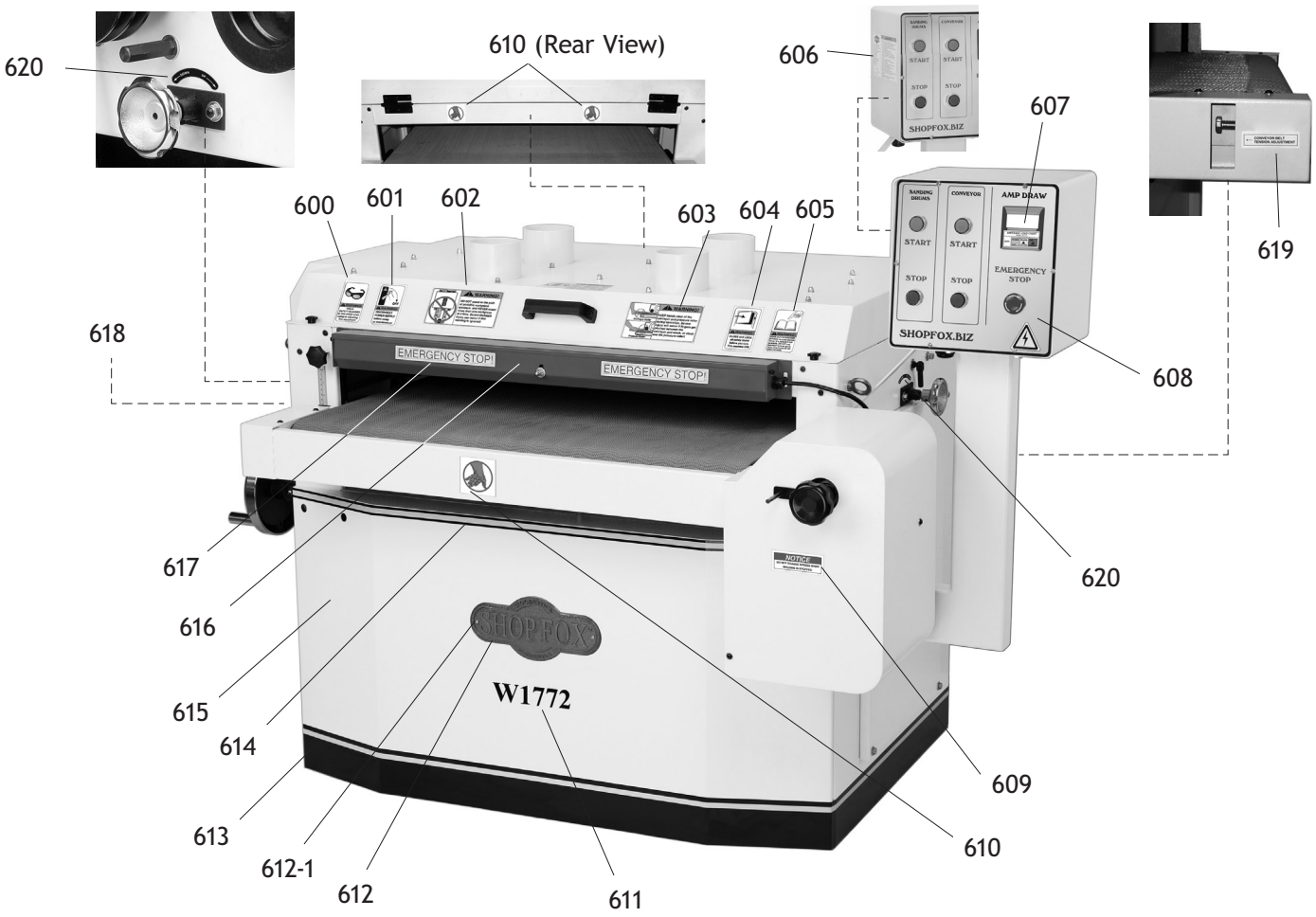
REF	PART #	DESCRIPTION
541	X1772541	CURRENT SENSOR
542	X1772542	CONTACTOR SDE MA-55 220V (W1772)
542	X1772542	CONTACTOR SDE MA-55 220V (W1773, 220V)
542A	X1773542A	CONTACTOR SDE MA-30 220V (W1773, 440V)
543	X1772543	OL RELAY SDE RA-60 32~50 (W1772)
543	X1773543	OL RELAY SDE RA-60 32~50 (W1773, 220V)
543A	X1773543A	OL RELAY SDE RA-30 19~26 (W1773, 440V)
544	X1772544	CONTACTOR SDE MA-09 220V (W1772)
544	X1772544	CONTACTOR SDE MA-09 220V (W1773, 220V)
544A	X1773544A	CONTACTOR SDE MA-09 220V (W1773, 440V)
545	X1772545	OL RELAY SDE RA-20 2.7~4.4 (W1772)
545	X1773545	OL RELAY SDE RA-20 0.9~1.5 (W1773, 220V)
545A	X1773545A	OL RELAY SDE RA-20 0.5~0.8 (W1773, 440V)
546	X1772546	CONTROL PANEL TERMINAL BLOCK
547	X1772547	INCOMING POWER TERMINAL BLOCK(W1772)

REF	PART #	DESCRIPTION
547	X1773547	INCOMING POWER TERMINAL BLOCK (W1773)
549	X1772549	AMP METER TRANSFORMER
553	X1773553	W1773 220/440V CONVERSION KIT 15HP
555	X1772555	MAIN ELECTRIC PANEL (W1772)
555	X1773555	MAIN ELECTRIC PANEL (W1773, 220V)
555A	X1773555A	MAIN ELECTRIC PANEL (W1773, 440V)
556	X1772556	CONTROL PANEL PLATE
559	X1772559	DIGITAL AMP METER
560	X1772560	CONVEYOR START BUTTON
561	X1772561	DRUM START BUTTON
562	X1772562	EMERGENCY STOP BUTTON
563	X1772563	CONVEYOR STOP BUTTON
564	X1772564	DRUM STOP BUTTON
565	X1772565	GROUND TERMINAL
566	X1772566	EMERGENCY STOP BAR LIMIT SWITCH

Label Placement

⚠WARNING

Safety labels warn about machine hazards and how to prevent machine damage or injury. The owner of this machine MUST maintain the original location and readability of all labels on this machine. If any label is removed or becomes unreadable, REPLACE that label before allowing the machine to enter service again. Contact Woodstock International, Inc. at (360) 734-3482 or www.shopfoxtools.com to order new labels.



REF	PART #	DESCRIPTION
600	XLABEL-11	SAFETY GLASSES LABEL
601	X1772601	DISCONNECT POWER LABEL
602	X1772602	FEED ONLY ONE LABEL
603	X1772603	HAND PINCH IN BELT LABEL
604	X1772604	KEEP DOOR CLOSED
605	XLABEL-12	READ MANUAL LABEL
606	X1772606	MACHINE ID LABEL (W1772)
606	X1773606	MACHINE ID LABEL (W1773)
607	X1772607	AMP LOAD LABEL (W1772)
607	X1773607	AMP LOAD LABEL (W1773)
608	X1772608	CONTROL PANEL PLATE LABEL
609	X1772609	DON'T CHANGE SPEEDS LABEL
610	X1772610	HAND WARNING

REF	PART #	DESCRIPTION
611	X1772611	W1772 MODEL NUMBER LABEL
611	X1773611	W1773 MODEL NUMBER LABEL
612	X1772612	SHOP FOX LOGO PLATE
612-1	X1772612-1	LOGO SCREW
613	X1772613	DECORATIVE STRIPE TAPE
614	X1772614	DECORATIVE STRIPE TAPE
615	XPPAINT-1	SHOP FOX WHITE PAINT
616	XPPAINT-11	SHOP FOX SAFETY RED
617	X1772617	LABEL EMERGENCY STOP
618	X1772618	BELT TENSION ADJUST LEFT LABEL
619	X1772619	BELT TENSION ADJUST RIGHT LABEL
620	X1772620	MICRO-ADJUST KNOB LABEL

Warranty Registration

Name_____

Street _____

City _____ State_____ Zip_____

Phone #_____ Email _____ Invoice #_____

Model #_____ Serial #_____ Dealer Name_____ Purchase Date_____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. ***Of course, all information is strictly confidential.***

1. How did you learn about us?
_____ Advertisement ____ Friend ____ Local Store
_____ Mail Order Catalog ____ Website ____ Other:

2. How long have you been a woodworker/metalworker?
_____ 0-2 Years _____ 2-8 Years ____ 8-20 Years _____ 20+ Years

3. How many of your machines or tools are **Shop Fox®**?
_____ 0-2 _____ 3-5 ____ 6-9 _____ 10+

4. Do you think your machine represents a good value? _____ Yes ____ No

5. Would you recommend **Shop Fox®** products to a friend? _____ Yes ____ No

6. What is your age group?
_____ 20-29 ____ 30-39 ____ 40-49
_____ 50-59 ____ 60-69 ____ 70+

7. What is your annual household income?
_____ $20,000-$29,000 ____ $30,000-$39,000 ____ $40,000-$49,000
_____ $50,000-$59,000 ____ $60,000-$69,000 ____ $70,000+

8. Which of the following magazines do you subscribe to?

____ Cabinet Maker
____ Family Handyman
____ Hand Loader
____ Handy
____ Home Shop Machinist
____ Journal of Light Cont.
____ Live Steam
____ Model Airplane News
____ Modeltec
____ Old House Journal
____ Popular Mechanics
____ Popular Science
____ Popular Woodworking
____ Practical Homeowner
____ Precision Shooter
____ Projects in Metal
____ RC Modeler
____ Rifle
____ Shop Notes
____ Shotgun News
____ Today's Homeowner
____ Wood
____ Wooden Boat
____ Woodshop News
____ Woodsmith
____ Woodwork
____ Woodworker West
____ Woodworker's Journal
____ Other:

9. Comments:_____

_____

_____

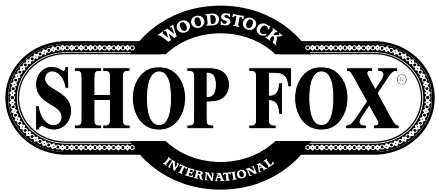
_____

_____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

Place
Stamp
Here



WOODSTOCK INTERNATIONAL INC.
P.O. BOX 2309
BELLINGHAM, WA 98227-2309

FOLD ALONG DOTTED LINE

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

Warranty

Woodstock International, Inc. warrants all **SHOP FOX®** machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair or replace, at its expense and at its option, the **SHOP FOX®** machine or machine part which in normal use has proven to be defective, provided that the original owner returns the product prepaid to a **SHOP FOX®** factory service center with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that **SHOP FOX®** machinery complies with the provisions of any law or acts. In no event shall Woodstock International, Inc.'s liability under this warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all **SHOP FOX®** machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.